SVS GROUP OF INSTITUTIONS

Bheemaram, Warangal -506015
DEPARTMENT OF COMPUTER SCIENCE &ENGINEERING
CS622PE: NETWORK PROGRAMMING LAB
R18- III YEAR B.TECH CSE II-SEM(EVEN)

COURSE OBJECTIVES:

- To understand inter process and inter-system communication
- To understand socket programming in its entirety
- To understand usage of TCP/UDP / Raw sockets
- To understand how to build network applications

COURSE OUTCOMES:

- To write socket API based programs
- To design and implement client-server applications using TCP and UDP sockets
- To analyze network programs

LIST OF EXPERIMENTS

1. Implement programs for Inter Process Communication using PIPE, Message Queue and Shared Memory.

2. Write a programme to create an integer variable using shared memory concept and increment the variable simultaneously by two processes. Use semaphores to avoid race conditions.

3. Design TCP iterative Client and server application to reverse the given input sentence

4. Design TCP iterative Client and server application to reverse the given input sentence

5. Design TCP client and server application to transfer file

6. Design a TCP concurrent server to convert a given text into upper case using multiplexing system call "select"

7. Design a TCP concurrent server to echo given set of sentences using poll functions

8. Design UDP Client and server application to reverse the given input sentence

9. Design UDP Client server to transfer a file

10. Design using poll client server application to multiplex TCP and UDP requests for converting a given text into upper case.

11. Design a RPC application to add and subtract a given pair of integers

LAB INCHARGE: Ms. SOGRA FATHIMA

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Bheemaram, Warangal -506015
DEPARTMENT OF COMPUTER SCIENCE &ENGINEERING
CS605PC: COMPILER DESIGN LAB
R18- III YEAR B.TECH CSE II-SEM(EVEN)

PREREQUISITES

1. A Course on "Objected Oriented Programming through Java"

CO-REQUISITES:

1. A course on "Web Technologies"

COURSE OBJECTIVES:

- To provide hands-on experience on web technologies
- To develop client-server application using web technologies
- To introduce server-side programming with Java servlets and JSP
- To understand the various phases in the design of a compiler.
- To understand the design of top-down and bottom-up parsers.
- To understand syntax directed translation schemes.
- To introduce lex and yacc tools.

COURSE OUTCOMES:

- Design and develop interactive and dynamic web applications using HTML, CSS, JavaScript and XML
- Apply client-server principles to develop scalable and enterprise web applications.
- Ability to design, develop, and implement a compiler for any language.
- Able to use lex and yacc tools for developing a scanner and a parser.
- Able to design and implement LL and LR parsers.

LIST OF EXPERIMENTS

Compiler Design Experiments

1. Write a LEX Program to scan reserved word & Identifiers of C Language

2. Implement Predictive Parsing algorithm

3. Write a C program to generate three address code.

4. Implement SLR(1) Parsing algorithm

5. Design LALR bottom up parser for the given language

> <program> ::= <block>
> <block> ::= { <variabledefinition> <slist> }
> | { <slist> }
> <variabledefinition> ::= int <vardeflist> ;
> <vardeflist> ::= <vardec> | <vardec> , <vardeflist>

<vardec> ::= <identifier> | <identifier> [<constant>]
<slist> ::= <statement> | <statement> ; <slist>
<statement> ::= <assignment> | <ifstatement> | <whilestatement>
| <block> | <printstatement> | <empty>
<assignment> ::= <identifier> = <expression>
| <identifier> [<expression>] = <expression>
<ifstatement> ::= if <bexpression> then <slist> else <slist> endif
| if <bexpression> then <slist> endif
<whilestatement> ::= while <bexpression> do <slist> enddo
<printstatement> ::= print (<expression>)
<expression> ::= <expression> <addingop> <term> | <term> | <addingop> <term>
<bexpression> ::= <expression> <relop> <expression>
<relop> ::= < | <= | == | >= | > | !=
<addingop> ::= + | -
<term> ::= <term> <multop> <factor> | <factor>
<multop> ::= * | /
<factor> ::= <constant> | <identifier> | <identifier> [<expression>]
| (<expression>)
<constant> ::= <digit> | <digit> <constant>
<identifier> ::= <identifier> <letterordigit> | <letter>
<letterordigit> ::= <letter> | <digit>
<letter> ::= a|b|c|d|e|f|g|h|i|j|k|l|m|n|o|p|q|r|s|t|u|v|w|x|y|z
<digit> ::= 0|1|2|3|4|5|6|7|8|9
<empty> has the obvious meaning
Comments (zero or more characters enclosed between the standard C/Java-style comment
brackets
/*...*/) can be inserted. The language has rudimentary support for 1-dimensional arrays. The
declaration int a[3] declares an array of three elements, referenced as a[0], a[1] and a[2]. Note
also that you should worry about the scoping of names.
A simple program written in this language is:
{ int a[3],t1,t2;
t1=2;
a[0]=1; a[1]=2; a[t1]=3;
t2=-(a[2]+t1*6)/(a[2]-t1);
if t2>5 then
print(t2);
else {
int t3;
t3=99;
t2=-25;
print(-t1+t2*t3); /* this is a comment
on 2 lines */
}
endif
}

LAB INCHARGE: Mr. K.VENKATESHWAR RAO

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Bheemaram, Warangal -506015
DEPARTMENT OF COMPUTER SCIENCE &ENGINEERING
CS604PC: MACHINE LEARNING LAB
IIIR18- III YEAR B.TECH CSE II-SEM(EVEN)

COURSE OBJECTIVE:

The objective of this lab is to get an overview of the various machine learning techniques and can able to demonstrate them using python.

Course Outcomes: After the completion of the course the student can able to:

- understand complexity of Machine Learning algorithms and their limitations;
- understand modern notions in data analysis-oriented computing;
- be capable of confidently applying common Machine Learning algorithms in practice and implementing their own;
- Be capable of performing experiments in Machine Learning using real-world data.

LIST OF EXPERIMENTS

1. The probability that it is Friday and that a student is absent is 3 %. Since there are 5 school days in a week, the probability that it is Friday is 20 %. What is theprobability that a student is absent given that today is Friday? Apply Baye's rule in python to get the result. (Ans: 15%)

2. Extract the data from database using python

3. Implement k-nearest neighbours classification using python

4. Given the following data, which specify classifications for nine combinations of VAR1 and VAR2 predict a classification for a case where VAR1=0.906 and VAR2=0.606, using the result of kmeans clustering with 3 means (i.e., 3 centroids)

```
VAR1 VAR2 CLASS
1.713 1.586 0
0.180 1.786 1
0.353 1.240 1
0.940 1.566 0
1.486 0.759 1
1.266 1.106 0
1.540 0.419 1
0.459 1.799 1
```

0.773 0.186 1

5. The following training examples map descriptions of individuals onto high, medium and low credit-worthiness.

       medium skiing design single twenties no -> highRisk

       high golf trading married forties yes -> lowRisk

       low speedway transport married thirties yes -> medRisk

       medium football banking single thirties yes -> lowRisk

       high flying media married fifties yes -> highRisk

       low football security single twenties no -> medRisk

       medium golf media single thirties yes -> medRisk

       medium golf transport married forties yes -> lowRisk

       high skiing banking single thirties yes -> highRisk

       low golf unemployed married forties yes -> highRisk

Input attributes are (from left to right) income, recreation, job, status, age-group, home-owner. Find the unconditional probability of `golf' and the conditional probability of `single' given `medRisk' in the dataset?

6. Implement linear regression using python.

7. Implement Naïve Bayes theorem to classify the English text

8. Implement an algorithm to demonstrate the significance of genetic algorithm

9. Implement the finite words classification system using Back-propagation algorithm

LAB INCHARGE: Mr. AMJAD PASHA

SVS GROUP OF INSTITUTIONS

Bheemaram, Warangal -506015
DEPARTMENT OF COMPUTER SCIENCE &ENGINEERING
CS505PC: SOFTWARE ENGINEERING LAB
R18- III YEAR B.TECH CSE I-SEM (ODD)

PREREQUISITES

1. A course on "Programming for Problem Solving"

COURSE OBJECTIVES:

- To have hands on experience in developing a software project by using various software engineering principles and methods in each of the phases of software development.

COURSE OUTCOMES:

- Ability to translate end-user requirements into system and software requirements
- Ability to generate a high-level design of the system from the software requirements
- Will have experience and/or awareness of testing problems and will be able to develop a simple testing report

LIST OF EXPERIMENTS

Do the following 8 exercises for any two projects given in the list of sample projects or any other projects:

1. Development of problem statement.

2. Preparation of Software Requirement Specification Document, Design Documents and Testing Phase related documents.

3. Preparation of Software Configuration Management and Risk Management related documents.

4. Study and usage of any Design phase CASE tool

5. Performing the Design by using any Design phase CASE tools.

6. Develop test cases for unit testing and integration testing

7. Develop test cases for various white box and black box testing techniques.

Sample Projects:

1. Passport automation System

2. Book Bank

3. Online Exam Registration

4. Stock Maintenance System

5. Online course reservation system

6. E-ticketing

7. Software Personnel Management System

8. Credit Card Processing

9. E-book management System.

10. Recruitment system

LAB INCHARGE: SUMAN

SVS GROUP OF INSTITUTIONS

Bheemaram, Warangal -506015
DEPARTMENT OF COMPUTER SCIENCE &ENGINEERING
CS506PC: COMPUTER NETWORKS AND WEB TECHNOLOGIES LAB
R18- III YEAR B.TECH CSE I-SEM(ODD)

COURSE OBJECTIVES

- To understand the working principle of various communication protocols.
- To understand the network simulator environment and visualize a network topology and observe its performance
- To analyze the traffic flow and the contents of protocol frames

COURSE OUTCOMES

- Implement data link layer farming methods
- Analyze error detection and error correction codes.
- Implement and analyze routing and congestion issues in network design.
- Implement Encoding and Decoding techniques used in presentation layer
- To be able to work with different network tools

LIST OF EXPERIMENTS

1. Implement the data link layer framing methods such as character, character-stuffing and bit stuffing.

2. Write a program to compute CRC code for the polynomials CRC-12, CRC-16 and CRC CCIP

3. Develop a simple data link layer that performs the flow control using the sliding window protocol, and loss recovery using the Go-Back-N mechanism.

4. Implement Dijsktra's algorithm to compute the shortest path through a network

5. Take an example subnet of hosts and obtain a broadcast tree for the subnet.

6. Implement distance vector routing algorithm for obtaining routing tables at each node.

7. Implement data encryption and data decryption

8. Write a program for congestion control using Leaky bucket algorithm.

9. Write a program for frame sorting technique used in buffers.

10. Wireshark

       i. Packet Capture Using Wire shark

       ii. Starting Wire shark

       iii. Viewing Captured Traffic

       iv. Analysis and Statistics & Filters.

11. How to run Nmap scan

12. Operating System Detection using Nmap

13. Do the following using NS2 Simulator

      i. NS2 Simulator-Introduction

      ii. Simulate to Find the Number of Packets Dropped

      iii. Simulate to Find the Number of Packets Dropped by TCP/UDP

      iv. Simulate to Find the Number of Packets Dropped due to Congestion

      v. Simulate to Compare Data Rate& Throughput.

      vi. Simulate to Plot Congestion for Different Source/Destination

      vii. Simulate to Determine the Performance with respect to Transmission of Packets

Web Technologies Experiments

1. Write a PHP script to print prime numbers between 1-50.

2. PHP script to

      a. Find the length of a string.

      b. Count no of words in a string.

      c. Reverse a string.

      d. Search for a specific string.

3. Write a PHP script to merge two arrays and sort them as numbers, in descending order.

4. Write a PHP script that reads data from one file and write into another file.

5. Develop static pages (using Only HTML) of an online book store. The pages should resemble: www.amazon.com. The website should consist the following pages.

a) Home page

b) Registration and user Login

c) User Profile Page

d) Books catalog

e) Shopping Cart

f) Payment By credit card

g) Order Conformation

6. Validate the Registration, user login, user profile and payment by credit card pages using JavaScript.

7. Create and save an XML document on the server, which contains 10 users information. Write a program, which takes User Id as an input and returns the user details by taking the user information from the XML document.

8. Install TOMCAT web server. Convert the static web pages of assignments 2 into dynamic web pages using servlets and cookies. Hint: Users information (user id, password, credit card number) would be stored in web.xml. Each user should have a separate Shopping Cart.

9. Redo the previous task using JSP by converting the static web pages of assignments 2 into dynamic web pages. Create a database with user information and books information. The books catalogue should be dynamically loaded from the database. Follow the MVC architecture while doing the website.

LAB INCHARGE: Mr. K.VENKATESHWAR RAO & Ms. SOGRA FATHIMA

SVS GROUP OF INSTITUTIONS

Bheemaram, Warangal -506015
DEPARTMENT OF COMPUTER SCIENCE &ENGINEERING
CS406PC: OPERATING SYSTEMS LAB
R18- II YEAR B.TECH CSE II-SEM(EVEN)

PREREQUISITES:

- A course on "Programming for Problem Solving".
- A course on "Computer Organization and Architecture".

CO-REQUISITE:

- A course on "Operating Systems".

COURSE OBJECTIVES:

- To provide an understanding of the design aspects of operating system concepts through simulation
- Introduce basic Unix commands, system call interface for process management, interprocess communication and I/O in Unix

COURSE OUTCOMES:

- Simulate and implement operating system concepts such as scheduling, deadlock management, file management and memory management.
- Able to implement C programs using Unix system calls

LIST OF EXPERIMENTS

1. Write C programs to simulate the following CPU Scheduling algorithms

    a) FCFS b) SJF c) Round Robin d) priority

2. Write programs using the I/O system calls of UNIX/LINUX operating system

    (open, read, write, close, fcntl, seek, stat, opendir, readdir)

3. Write a C program to simulate Bankers Algorithm for Deadlock Avoidance and Prevention.

4. Write a C program to implement the Producer – Consumer problem using semaphores using UNIX/LINUX

system calls.

5. Write C programs to illustrate the following IPC mechanisms

    a) Pipes b) FIFOs c) Message Queues d) Shared Memory

6. Write C programs to simulate the following memory management techniques

    a) Paging b) Segmentation .

LAB INCHARGE: Ms. T.PARESHMESHWARI

SVS GROUP OF INSTITUTIONS

Bheemaram, Warangal -506015
DEPARTMENT OF COMPUTER SCIENCE &ENGINEERING
CS407PC: DATABASE MANAGEMENT SYSTEMS LAB
R18- II YEAR B.TECH CSE II-SEM(EVEN)

CO-REQUISITES:

- Co-requisite of course "Database Management Systems"

COURSE OBJECTIVES:

- Introduce ER data model, database design and normalization
- Learn SQL basics for data definition and data manipulation

COURSE OUTCOMES:

- Design database schema for a given application and apply normalization
- Acquire skills in using SQL commands for data definition and data manipulation.
- Develop solutions for database applications using procedures, cursors and triggers

LIST OF EXPERIMENTS

1. Concept design with E-R Model

2. Relational Model

3. Normalization

4. Practicing DDL commands

5. Practicing DML commands

6. Querying (using ANY, ALL, IN, Exists, NOT EXISTS, UNION, INTERSECT, Constraints etc.)

7. Queries using Aggregate functions, GROUP BY, HAVING and Creation and dropping of Views.

8. Triggers (Creation of insert trigger, delete trigger, update trigger)

9. Procedures

10. Usage of Cursors

LAB INCHARGE: Mrs. S.DIVYA

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Bheemaram, Warangal -506015
DEPARTMENT OF COMPUTER SCIENCE &ENGINEERING
CS408PC: JAVA PROGRAMMING LAB
R18- II YEAR B.TECH CSE II-SEM(EVEN)

COURSE OBJECTIVES:

- To write programs using abstract classes.
- To write programs for solving real world problems using java collection frame work.
- To write multithreaded programs.
- To write GUI programs using swing controls in Java.
- To introduce java compiler and eclipse platform.
- To impart hands on experience with java programming.

COURSE OUTCOMES:

- Able to write programs for solving real world problems using java collection frame work.
- Able to write programs using abstract classes.
- Able to write multithreaded programs.
- Able to write GUI programs using swing controls in Java.

LIST OF EXPERIMENTS

1. Use Eclipse or Net bean platform and acquaint with the various menus. Create a test project, add a test class, and run it. See how you can use auto suggestions, auto fill. Try code formatter and code refactoring like renaming variables, methods, and classes. Try debug step by step with a small program of about 10 to 15 lines which contains at least one if else condition and a for loop.

2. Write a Java program that works as a simple calculator. Use a grid layout to arrange buttons for the digits and for the +, -,*, % operations. Add a text field to display the result. Handle any possible exceptions like divided by zero.

3. a) Develop an applet in Java that displays a simple message.

   b) Develop an applet in Java that receives an integer in one text field, and computes its factorial Value and returns it in another text field, when the button named "Compute" is clicked.

4. Write a Java program that creates a user interface to perform integer divisions. The user enters two numbers in the text fields, Num1 and Num2. The division of Num1 and Num 2 is displayed in the Result field when the Divide button is clicked. If Num1 or Num2 were not an integer, the program would throw a Number Format Exception. If Num2 were Zero, the program would throw an Arithmetic Exception. Display the exception in a message dialog box.

5. Write a Java program that implements a multi-thread application that has three threads. First thread generates random integer every 1 second and if the value is even, second thread computes the square of the number and prints. If the value is odd, the third thread will print the value of cube of the number.

6. Write a Java program for the following:

  Create a doubly linked list of elements.

  Delete a given element from the above list.

  Display the contents of the list after deletion.

7. Write a Java program that simulates a traffic light. The program lets the user select one of three lights: red, yellow, or green with radio buttons. On selecting a button, an appropriate message with "Stop" or "Ready" or "Go" should appear above the buttons in selected color. Initially, there is no message shown.

8. Write a Java program to create an abstract class named Shape that contains two integers and an empty method named print Area (). Provide three classes named Rectangle, Triangle, and Circle such that each one of the classes extends the class Shape. Each one of the classes contains only the method print Area () that prints the area of the given shape.

9. Suppose that a table named Table.txt is stored in a text file. The first line in the file is the header, and the remaining lines correspond to rows in the table. The elements are separated by commas. Write a java program to display the table using Labels in Grid Layout.

10. Write a Java program that handles all mouse events and shows the event name at the center of the window when a mouse event is fired (Use Adapter classes).

11. Write a Java program that loads names and phone numbers from a text file where the data is organized as one line per record and each field in a record are separated by a tab (\t). It takes a name or phone number as input and prints the corresponding other value from the hash table (hint:use hash tables).

12. Write a Java program that correctly implements the producer – consumer problem using the concept of interthread communication.

13. Write a Java program to list all the files in a directory including the files present in all its subdirectories.

14. Write a Java program that implements Quick sort algorithm for sorting a list of names in ascending order

15. Write a Java program that implements Bubble sort algorithm for sorting in descending order and also shows the number of interchanges occurred for the given set of integers.

LAB INCHARGE: Mr. K.VENKATESHWAR RAO

SVS GROUP OF INSTITUTIONS

Bheemaram, Warangal -506015
DEPARTMENT OF COMPUTER SCIENCE &ENGINEERING
CS307PC: DATA STRUCTURES LAB
R18- II YEAR B.TECH CSE I-SEM(ODD)

PREREQUISITES: A Course on "Programming for problem solving".

COURSE OBJECTIVES:

- It covers various concepts of C programming language
- It introduces searching and sorting algorithms
- It provides an understanding of data structures such as stacks and queues.

COURSE OUTCOMES:

- Ability to develop C programs for computing and real-life applications using basic elements like control statements, arrays, functions, pointers and strings, and data structures like stacks, queues and linked lists.
- Ability to Implement searching and sorting algorithms

LIST OF EXPERIMENTS

1. Write a program that uses functions to perform the following operations on singly linked list:

     i) Creation ii) Insertion iii) Deletion iv) Traversal

2. Write a program that uses functions to perform the following operations on doubly linked list:

     i) Creation ii) Insertion iii) Deletion iv) Traversal

3. Write a program that uses functions to perform the following operations on circular linked list:

     i) Creation ii) Insertion iii) Deletion iv) Traversal

4. Write a program that implement stack (its operations) using i) Arrays ii) Pointers

5. Write a program that implement Queue (its operations) using i) Arrays ii) Pointers

6. Write a program that implements the following sorting methods to sort a given list of integers in ascending order i) Bubble sort ii) Selection sort iii) Insertion sort

7. Write a program that use both recursive and non recursive functions to perform the following searching operations for a Key value in a given list of integers: i) Linear search ii) Binary search

8. Write a program to implement the tree traversal methods.

9. Write a program to implement the graph traversal methods

LAB INCHARGE:

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Bheemaram, Warangal -506015
DEPARTMENT OF COMPUTER SCIENCE &ENGINEERING
CS308PC: IT WORKSHOP LAB
R18- II YEAR B.TECH CSE I-SEM(ODD)

COURSE OBJECTIVES:

- The IT Workshop for engineers is a training lab course spread over 60 hours.
- The modules include training on PC Hardware, Internet & World Wide Web and Productivity tools including Word, Excel, Power Point and Publisher.

PC Hardware introduces the students to a personal computer and its basic peripherals, the process of assembling a personal computer, installation of system software like MS Windows, Linux and the required device drivers. In addition hardware and software level troubleshooting process, tips and tricks would be covered. The students should work on working PC to disassemble and assemble to working condition and install Windows and Linux on the same PC. Students are suggested to work similar tasks in the Laptop scenario wherever possible.

Internet & World Wide Web module introduces the different ways of hooking the PC on to the internet from home and workplace and effectively usage of the internet. Usage of web browsers, email, newsgroups and discussion forums would be covered. In addition, awareness of cyber hygiene, i.e., protecting the personal computer from getting infected with the viruses, worms and other cyber attacks would be introduced.

Productivity tools module would enable the students in crafting professional word documents, excel spread sheets, power point presentations and personal web sites using the Microsoft suite of office tools and LaTeX.

PC HARDWARE

Task 1: Identify the peripherals of a computer, components in a CPU and its functions. Draw the block diagram of the CPU along with the configuration of each peripheral and submit to your instructor.

Task 2: Every student should disassemble and assemble the PC back to working condition. Lab instructors should verify the work and follow it up with a Viva. Also students need to go through the video which shows the process of assembling a PC. A video would be given as part of the course content.

Task 3: Every student should individually install MS windows on the personal computer. Lab instructor should verify the installation and follow it up with a Viva.

Task 4: Every student should install Linux on the computer. This computer should have windows installed. The system should be configured as dual boot with both windows and Linux. Lab instructors should verify the installation and follow it up with a Viva

Task 5: Hardware Troubleshooting: Students have to be given a PC which does not boot due to improper assembly or defective peripherals. They should identify the problem and fix it to get the computer back to working condition. The work done should be verified by the instructor and followed up with a Viva.

Task 6: Software Troubleshooting: Students have to be given a malfunctioning CPU due to system software problems. They should identify the problem and fix it to get the computer back to working condition. The work done should be verified by the instructor and followed up with a Viva.

Internet & World Wide Web

Task1: **Orientation & Connectivity Boot Camp:** Students should get connected to their Local Area Network and access the Internet. In the process they configure the TCP/IP setting. Finally students should demonstrate, to the instructor, how to access the websites and email. If there is no internet connectivity preparations need to be made by the instructors to simulate the WWW on the LAN.

Task 2: Web Browsers, Surfing the Web: Students customize their web browsers with the LAN proxy settings, bookmarks, search toolbars and pop up blockers. Also, plug-ins like Macromedia Flash and JRE for applets should be configured.

Task 3: **Search Engines & Netiquette:** Students should know what search engines are and how to use the search engines. A few topics would be given to the students for which they need to search on Google. This should be demonstrated to the instructors by the student.

Task 4: Cyber Hygiene: Students would be exposed to the various threats on the internet and would be asked to configure their computer to be safe on the internet. They need to first install an antivirus software, configure their personal firewall and windows update on their computer. Then they need to customize their browsers to block pop ups, block active x downloads to avoid viruses and/or worms.

LaTeX and WORD

Task 1 – Word Orientation: The mentor needs to give an overview of LaTeX and Microsoft (MS) office 2007/ equivalent (FOSS) tool word: Importance of LaTeX and MS office 2007/ equivalent (FOSS) tool Word as word Processors, Details of the four tasks and features that would be covered in each, Using LaTeX and word – Accessing, overview of toolbars, saving files, Using help and resources, rulers, format painter in word.

Task 2: Using LaTeX and Word to create project certificate. Features to be covered:- Formatting Fonts in word, Drop Cap in word, Applying Text effects, Using Character Spacing, Borders and Colors, Inserting Header and Footer, Using Date and Time option in both LaTeX and Word.

Task 3: Creating project abstract Features to be covered:-Formatting Styles, Inserting table, Bullets and Numbering, Changing Text Direction, Cell alignment, Footnote, Hyperlink, Symbols, Spell Check, Track Changes.

Task 4 : Creating a Newsletter : Features to be covered:- Table of Content, Newspaper columns, Images from files and clipart, Drawing toolbar and Word Art, Formatting Images, Textboxes, Paragraphs and Mail Merge in word.

Excel

Excel Orientation: The mentor needs to tell the importance of MS office 2007/ equivalent (FOSS) tool Excel as a Spreadsheet tool, give the details of the four tasks and features that would be covered in each. Using Excel – Accessing, overview of toolbars, saving excel files, Using help and resources.

Task 1: Creating a Scheduler - Features to be covered: Gridlines, Format Cells, Summation, auto fill, Formatting Text

Task 2 : Calculating GPA - .Features to be covered:- Cell Referencing, Formulae in excel – average, std.deviation, Charts, Renaming and Inserting worksheets, Hyper linking, Count function, LOOKUP/VLOOKUP

Task 3: Performance Analysis - Features to be covered:- Split cells, freeze panes, group and outline, Sorting, Boolean and logical operators, Conditional formatting

LaTeX and MS/equivalent (FOSS) tool Power Point

Task 1: Students will be working on basic power point utilities and tools which help them create basic power point presentation. Topic covered during this week includes: - PPT Orientation, Slide Layouts, Inserting Text, Word Art, Formatting Text, Bullets and Numbering, Auto Shapes, Lines and Arrows in both LaTeX and PowerPoint. Students will be given model power point presentation which needs to be replicated (exactly how it's asked).

Task 2: Second week helps students in making their presentations interactive. Topic covered during this week includes: Hyperlinks, Inserting –Images, Clip Art, Audio, Video, Objects, Tables and Charts.

Task 3: Concentrating on the in and out of Microsoft power point and presentations in LaTeX. Helps them learn best practices in designing and preparing power point presentation. Topic covered during this week includes: - Master Layouts (slide, template, and notes), Types of views (basic, presentation, slide slotter, notes etc), and Inserting – Background, textures, Design Templates, Hidden slides.

LAB INCHARGE: Mr. P.VIJENDAR

SVS GROUP OF INSTITUTIONS

Bheemaram, Warangal -506015
DEPARTMENT OF COMPUTER SCIENCE &ENGINEERING
CS309PC: C++ PROGRAMMING LAB
R18- II YEAR B.TECH CSE I-SEM(ODD)

PREREQUISITES: A course on "Programming for Problem Solving".

COURSE OBJECTIVES:

- Introduces object-oriented programming concepts using the C++ language.
- Introduces the principles of data abstraction, inheritance and polymorphism;
- Introduces the principles of virtual functions and polymorphism
- Introduces handling formatted I/O and unformatted I/O
- Introduces exception handling

COURSE OUTCOME:

- Ability to develop applications for a range of problems using object-oriented programming techniques

LIST OF EXPERIMENTS

1. Write a C++ Program to display Names, Roll No., and grades of 3 students who have appeared in the examination. Declare the class of name, Roll No. and grade. Create an array of class objects. Read and display the contents of the array.
2. Write a C++ program to declare Struct. Initialize and display contents of member variables.
3. Write a C++ program to declare a class. Declare pointer to class. Initialize and display the contents of the class member.
4. Given that an EMPLOYEE class contains following members: data members: Employee number, Employee name, Basic, DA, IT, Net Salary and print data members.
5. Write a C++ program to read the data of N employee and compute Net salary of each employee (DA=52% of Basic and Income Tax (IT) =30% of the gross salary)**.**
6. Write a C++ to illustrate the concepts of console I/O operations.
7. Write a C++ program to use scope resolution operator. Display the various values of the same variables declared at different scope levels.
8. Write a C++ program to allocate memory using new operator.
9. Write a C++ program to create multilevel inheritance. (Hint: Classes A1, A2, A3)
10. Write a C++ program to create an array of pointers. Invoke functions using array objects.
11. Write a C++ program to use pointer for both base and derived classes and call the member function. Use Virtual keyword.

LAB INCHARGE: Mr. AMJAD PASHA

SVS GROUP OF INSTITUTIONS

Bheemaram, Warangal -506015

DEPARTMENT OF COMPUTER SCIENCE &ENGINEERING
CS703PC: CRYPTOGRAPHY AND NETWORK SECURITY LAB
R18- IV YEAR B.TECH CSE I-SEM(ODD)

LIST OF EXPERIMENTS

1. Write a C program that contains a string (char pointer) with a value 'Hello world'. The program should XOR each character in this string with 0 and displays the result.

2. Write a C program that contains a string (char pointer) with a value 'Hello world'. The program should AND or and XOR each character in this string with 127 and display the result.

3. Write a Java program to perform encryption and decryption using the following algorithms

a. Ceaser cipher b. Substitution cipher c. Hill Cipher

4. Write a C/JAVA program to implement the DES algorithm logic.

5. Write a C/JAVA program to implement the Blowfish algorithm logic.

6. Write a C/JAVA program to implement the Rijndael algorithm logic.

7. Write the RC4 logic in Java Using Java cryptography; encrypt the text "Hello world" using Blowfish. Create your own key using Java key tool.

8. Write a Java program to implement RSA algorithm.

9. Implement the Diffie-Hellman Key Exchange mechanism using HTML and JavaScript.

10. Calculate the message digest of a text using the SHA-1 algorithm in JAVA.

11. Calculate the message digest of a text using the MD5 algorithm in JAVA.

LAB INCHARGE: Mrs. S.DIVYA

COURSE OUTCOMES: The candidate is expected to be able to:
- formulate the algorithms for simple problems
- translate given algorithms to a working and correct program
- correct syntax errors as reported by the compilers
- identify and correct logical errors encountered during execution
- represent and manipulate data with arrays, strings and structures
- use pointers of different types
- create, read and write to and from simple text and binary files
- modularize the code with functions so that they can be reused

LIST OF EXPERIMENTS

1. Write a simple program that prints the results of all the operators available in C (including pre/ post increment, bitwise and/or/not , etc.). Read required operand values from standard input.

2. Write a simple program that converts one given data type to another using auto conversion and casting. Take the values form standard input.

Simple numeric problems:

1. Write a program for fiend the max and min from the three numbers.

2. Write the program for the simple, compound interest.

3. Write program that declares Class awarded for a given percentage of marks, where mark <40%= Failed, 40% to <60% = Second class, 60% to <70%=First class, >= 70% = Distinction. Read percentage from standard input.

4. Write a program that prints a multiplication table for a given number and the number of rows in the table. For example, for a number 5 and rows = 3, the output should be:

   i.   e. 5 x 1 = 5
   ii.   f. 5 x 2 = 10
   iii. g. 5 x 3 = 15
   iv.   h. Write a program that shows the binary equivalent of a given positive number between 0 to 255.

Expression Evaluation:

1. A building has 10 floors with a floor height of 3 meters each. A ball is dropped from the top of

the building. Find the time taken by the ball to reach each floor. (Use the formula s = ut+(1/2)at^2 where u and a are the initial velocity in m/sec (= 0) and acceleration in m/sec^2 (= 9.8 m/s^2)).

2. Write a C program, which takes two integer operands and one operator from the user, performs the operation and then prints the result. (Consider the operators +,-,*, /, % and use Switch (Statement)

3. Write a program that finds if a given number is a prime number

4. Write a C program to find the sum of individual digits of a positive integer and test given number is palindrome.

5. A Fibonacci sequence is defined as follows: the first and second terms in the sequence are 0 and 1. Subsequent terms are found by adding the preceding two terms in the sequence. Write a C program to generate the first n terms of the sequence.

6. Write a C program to generate all the prime numbers between 1 and n, where n is a value supplied by the user.

7. Write a C program to find the roots of a Quadratic equation.

8. Write a C program to calculate the following, where x is a fractional value.

i. 1-x/2 +x^2/4-x^3/6

9.. Write a C program to read in two numbers, x and n, and then compute the sum of this geometric progression: 1+x+x^2+x^3+………….+x^n. For example: if n is 3 and x is 5, then the program computes 1+5+25+125.

Arrays and Pointers and Functions:

1. Write a C program to find the minimum, maximum and average in an array of integers.

2. Write a functions to compute mean, variance, Standard Deviation, sorting of n elements in single dimension array.

3 . Write a C program that uses functions to perform the following:

      i. Addition of Two Matrices

       ii. Multiplication of Two Matrices

      iii. Transpose of a matrix with memory dynamically allocated for the new matrix as row and column counts may not be same.

4. Write C programs that use both recursive and non-recursive functions

i. To find the factorial of a given integer.

ii. To find the GCD (greatest common divisor) of two given integers.

iii. To find x^n

5. Write a program for reading elements using pointer into array and display the values using array.

6. Write a program for display values reverse order from array using pointer.

7. Write a program through pointer variable to sum of n elements from array.

Files:

1. Write a C program to display the contents of a file to standard output device.

2. Write a C program which copies one file to another, replacing all lowercase characters with their uppercase equivalents.

3. Write a C program to count the number of times a character occurs in a text file. The file name and the character are supplied as command line arguments.

4. Write a C program that does the following:

It should first create a binary file and store 10 integers, where the file name and 10 values are

given in the command line. (hint: convert the strings using atoi function)

Now the program asks for an index and a value from the user and the value at that index should

be changed to the new value in the file. (hint: use fseek function)

The program should then read all 10 values and print them back.

5. Write a C program to merge two files into a third file (i.e., the contents of the firs t file followed by those of the second are put in the third file).

Strings:

1. Write a C program to convert a Roman numeral ranging from I to L to its decimal equivalent.

2. Write a C program that converts a number ranging from 1 to 50 to Roman equivalent

3. Write a C program that uses functions to perform the following operations:

     i. To insert a sub-string in to a given main string from a given position.

     ii. To delete n Characters from a given position in a given string.

4. Write a C program to determine if the given string is a palindrome or not (Spelled same in both directions with or without a meaning like madam, civic, noon, abcba, etc.)

5. Write a C program that displays the position of a character ch in the string S or − 1 if S doesn't contain ch.

6. Write a C program to count the lines, words and characters in a given text.

Miscellaneous:

1. Write a menu driven C program that allows a user to enter n numbers and then choose between finding the smallest, largest, sum, or average. The menu and all the choices are to be functions. Use a switch statement to determine what action to take. Display an error message if an invalid choice is entered.

2. Write a C program to construct a pyramid of numbers as follows:

1	1	1
1 2	2 3	2 2
1 2 3	4 5 6	3 3 3
		4 4 4 4

Sorting and Searching:

1. Write a C program that uses non recursive function to search for a Key value in a given list of integers using linear search method.

2.. Write a C program that uses non recursive function to search for a Key value in a given sorted list of integers using binary search method.

3. Write a C program that implements the Bubble sort method to sort a given list of f. integers in ascending order.

4. Write a C program that sorts the given array of integers using selection sort in descending order

5. Write a C program that sorts the given array of integers using insertion sort in ascending order

6. Write a C program that sorts a given array of names.

LAB INCHARGE: Mr. AMJAD PASHA

DEPARTMENT OF COMPUTER SCIENCE &ENGINEERING
CS604PC: MACHINE LEARNING LAB
I R19- I YEAR M.TECH CSE I-SEM(ODD)

COURSE OBJECTIVE:

The objective of this lab is to get an overview of the various machine learning techniques and can able to demonstrate them using python.

Course Outcomes: After the completion of the course the student can able to:

- understand complexity of Machine Learning algorithms and their limitations;
- understand modern notions in data analysis-oriented computing;
- be capable of confidently applying common Machine Learning algorithms in practice and implementing their own;
- Be capable of performing experiments in Machine Learning using real-world data.

LIST OF EXPERIMENTS

1. The probability that it is Friday and that a student is absent is 3 %. Since there are 5 school days in a week, the probability that it is Friday is 20 %. What is theprobability that a student is absent given that today is Friday? Apply Baye's rule in python to get the result. (Ans: 15%)

2. Extract the data from database using python

3. Implement k-nearest neighbours classification using python

4. Given the following data, which specify classifications for nine combinations of VAR1 and VAR2 predict a classification for a case where VAR1=0.906 and VAR2=0.606, using the result of kmeans clustering with 3 means (i.e., 3 centroids)

VAR1 VAR2 CLASS

1.713 1.586 0

0.180 1.786 1

0.353 1.240 1

0.940 1.566 0

1.486 0.759 1

1.266 1.106 0

1.540 0.419 1

0.459 1.799 1

0.773 0.186 1

5. The following training examples map descriptions of individuals onto high, medium and low credit-worthiness.

medium skiing design single twenties no -> highRisk

high golf trading married forties yes -> lowRisk

low speedway transport married thirties yes -> medRisk

medium football banking single thirties yes -> lowRisk

high flying media married fifties yes -> highRisk

low football security single twenties no -> medRisk

medium golf media single thirties yes -> medRisk

medium golf transport married forties yes -> lowRisk

high skiing banking single thirties yes -> highRisk

low golf unemployed married forties yes -> highRisk

Input attributes are (from left to right) income, recreation, job, status, age-group, home-owner. Find the unconditional probability of `golf' and the conditional probability of `single' given `medRisk' in the dataset?

6. Implement linear regression using python.

7. Implement Naïve Bayes theorem to classify the English text

8. Implement an algorithm to demonstrate the significance of genetic algorithm

9. Implement the finite words classification system using Back-propagation algorithm

LAB INCHARGE: 1)Mrs .J PRIYANKA
**   2)Mr. P.VENU MADAV**

SVS GROUP OF INSTITUTIONS

Bheemaram, Warangal -506015
DEPARTMENT OF COMPUTER SCIENCE &ENGINEERING
CS307PC: DATA STRUCTURES LAB
R19- I YEAR M.TECH CSE I-SEM(ODD)

PREREQUISITES: A Course on "Programming for problem solving".

COURSE OBJECTIVES:

- It covers various concepts of C programming language
- It introduces searching and sorting algorithms
- It provides an understanding of data structures such as stacks and queues.

COURSE OUTCOMES:

- Ability to develop C programs for computing and real-life applications using basic elements like control statements, arrays, functions, pointers and strings, and data structures like stacks, queues and linked lists.
- Ability to Implement searching and sorting algorithms

LIST OF EXPERIMENTS

1. Write a program that uses functions to perform the following operations on singly linked list:

    i) Creation ii) Insertion iii) Deletion iv) Traversal

2. Write a program that uses functions to perform the following operations on doubly linked list:

    i) Creation ii) Insertion iii) Deletion iv) Traversal

3. Write a program that uses functions to perform the following operations on circular linked list:

    i) Creation ii) Insertion iii) Deletion iv) Traversal

4. Write a program that implement stack (its operations) using i) Arrays ii) Pointers

5. Write a program that implement Queue (its operations) using i) Arrays ii) Pointers

6. Write a program that implements the following sorting methods to sort a given list of integers in ascending order i) Bubble sort ii) Selection sort iii) Insertion sort

7. Write a program that use both recursive and non recursive functions to perform the following searching operations for a Key value in a given list of integers: i) Linear search ii) Binary search

8. Write a program to implement the tree traversal methods. Write a program to implement the graph traversal methods

LAB INCHARGE: 1) Ms. M.SRAVANTHI   2) Ms K MOUNIKA

SVS GROUP OF INSTITUTIONS

Bheemaram, Warangal -506015

DEPARTMENT OF COMPUTER SCIENCE &ENGINEERING

CS307PC: ADVANCED ALGORTHMS LAB

R19- I YEAR M.TECH CSE II-SEM(EVEN)

Course Objective: The student can able to attain knowledge in advance algorithms.

Course Outcomes: The student can able to analyze the performance of algorithms

List of Experiments

1. Implement assignment problem using Brute Force method

2. Perform multiplication of long integers using divide and conquer method.

3. Implement solution for knapsack problem using Greedy method.

4. Implement Gaussian elimination method.

5. Implement LU decomposition

6. Implement Warshall algorithm

7. Implement Rabin Karp algorithm

.

8. Implement KMP algorithm.

9. Implement Harspool algorithm

10. Implement max-flow problem.

LAB INCHARGE:A SANDYA RANI   2) CH APARNA

SVS GROUP OF INSTITUTIONS

Bheemaram, Warangal -506015

DEPARTMENT OF COMPUTER SCIENCE &ENGINEERING
CS204PC: DATA SCIENCE LAB
R19- I YEAR M.TECH CSE II-SEM(EVEN)

Course Objectives:

· To make students understand learn about a Big Data – R Programming, way of solving problems.

· To teach students to write programs in Scala to solve problems.

Introduction to R Programming:

What is R and RStudio? R is a statistical software program. It has extremely useful tools for data exploration, data analysis, and data visualization. It is flexible and also allows for advanced programming. RStudio is a user interface for R, which provides a nice environment for working with R.

1. Write an R program to evaluate the following expression ax+b/ax-b.
2. Write an R program to read input from keyboard (hint: readLine()).
3. Write an R program to find the sum of n natural numbers: 1+2+3+4+….n
4. Write an R program to read n numbers.
(i) Sum of all even numbers (ii) Total number of even numbers.
5. Write an R program to read n numbers.
(i) Total number of odd numbers (ii) Sum of all odd numbers
6. Write an R program to obtain
(i)sum of two matrices A and B (ii) subtraction of two matrices A and B
(iii) Product of two matrices.
7. Write an R program for "declaring and defining functions "
8. Write an R program that uses functions to add n numbers reading from keyboard
9. Write an R program uses functions to swap two integers.
10. Write an R program that use both recursive and non-recursive functions for implementing the Factorial of a given number, n.
11. Write an R program to reverse the digits of the given number {example 1234 to be written as 4321}
12. Write an R program to implement
(i)Linear search (ii) Binary Search.
13. Write an R program to implement
(i)Bubble sort (ii) selection sort.
14. Write a R program to implement the data structures
(i) Vectors (ii) Array (iii) Matrix (iv) Data Frame (v) Factors
15. Write a R program to implement scan(), merge(), read.csv() and read.table() commands.
16. Write an R program to implement "Executing Scripts" written on the note pad, by calling to the R console.
17. Write a R program, Reading data from files and working with datasets
(i) Reading data from csv files, inspection of data.
(ii) Reading data from Excel files.
18. Write a R program to implement Graphs
(i) Basic high-level plots (ii)Modifications of scatter plots
(iii) Modifications of histograms, parallel box plots.
Suggested Books for Lab:
1. Big data – Black Book: 2015 edition: dreamtech press. Pg. (490- 642)
2. Introducing to programming and problem solving by scala, mark c. lewis, lisa l.lacher.

LAB INCHARGES: 1)S DIVYA   2) SOGRA FATHIMA