



of Growing Education Sector

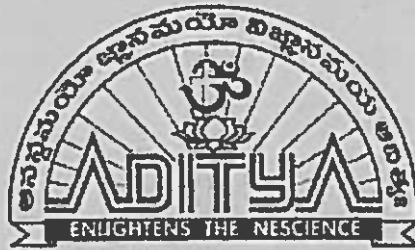
ADITYA DEGREE COLLEGE

(Affiliated to Andhra University)

Santhi Nagar

KAKINADA- 533 003

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Department of Computer Science



COMPUTER LAB SCHEDULE

ADITYA DEGREE COLLEGE

(Established in the year 1983)

Sankar Nagar

KAKINADA-533 003

(The College is affiliated to the

Government



Department of
Computer Science



COMPUTER LAB SCHEDULE

ADITYA DEGREE COLLEGE

The way important changes take place

Dear Youngster,

The curiosity to learn things, gaining better experience and employing proper means to reach the goals in considering these aspects, wise people always opt for variety. That is how important changes take place in the lives.

ADITYA always plans the work and works according to the plan. This, we believe in the incentive that we always give to our dear students. Keeping in view with the rapid development in the Information Technology and orientation towards methodology of teaching Computer related subjects, this LAB MODEL PRESENTATION is in your hands now. This presentation has several special features.

- ❖ No other Degree College has ever come up with such FIRST-OF-ITS-KIND material. You are sure to get the ultimate benefit when you employ this illustrious and brain teasing presentation as per the schedule and emerge as a CREAM PROGRAMMER.
- ❖ Each lab assignment takes you higher and higher up in your knowledge of computing, dealing with variety, depth and range. Two assignments each week appeal to your intelligence, make you focus your attention and leave you richer in experience and expertise.
- ❖ Graded according to the first year syllabi of B.C.A and first and second year syllabi of B.Sc., the material facilitates a two-language approach- Pascal for I B.Sc., and 'C' for rest of the students. You are expected to fill in your Assignment Manual with pseudo program of the particular topic before you lay your enthusiastic hands on the computer terminal. You will naturally draw out a program, debug it and get the result entered into your Assignment Sheets.
- ❖ Starting with Mathematical tidbits, going through sequences and arrays, you will lavish yourself in commercial programming - the natural way for a successful youngster.
- ❖ Your result in the weekly - two- assignments coupled with your performance in fortnightly test gets you a premium reward! TWO ABSOLUTE HOURS will be all yours at the INTERNET at the designated timing!

The idea behind all this preparation is to make you top-rate in Computer programming and skills. Remember, Winners always compete to get the best out of toughest competitions and spare no efforts to advance their skills. I am sure you will draw yourself to this cute little plan and come out in shining colours.

Yours sincerely,

N. Sesh Reddy
(N. SESH REDDY)

Dear Students

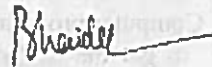
I am delighted to present this computer Lab Schedule to you.

In the study of computer science, what is more important is the practical knowledge. Unless one acquires efficiency in writing computer programmes, no degree in computer science is useful. Acquiring practical skill in computers requires development of logical skill. For this, one has to do a large number of programmes and execute them on computers. The more you practice, more skill you develop. Practice makes man perfect. We want to make you perfect.

It is for this specific purpose that we have prepared this computer Lab Schedule which includes a large number of programmes based on C and C++ languages.

I take this opportunity to record my whole hearted appreciation for the work done by department of Computer Science in giving an almost exhaustive shape to this Lab Schedule.

I hope this will prove to be highly beneficial for any student of Computer Science who is seriously interested in developing skill in Computer Programming.



B.E.V.L. Naidu, MCA

Principal

ADITYA DEGREE COLLEGE

ADITYA DEGREE COLLEGES

(Affiliated to Andhra University)

Kakinada : : Rajahmundry

Department of Computer Science

Computer Programs List

LAB : 1

SCOPE : Knowing how to construct a program

1. Write a program to add and subtract two numbers.
2. Write a program to multiply and divide two numbers and print them in the form of equation ($4*3=12$, $8/4=2$)
3. Write a program to find the square and cube of a given number
4. Write a program to find the square root of a given number (use `sqrt()` function)
5. Write a program to find the area and perimeter of a square.

LAB : 2

SCOPE : Making use of language tokens

6. Write a program to find the area and circumference of a circle
7. Write a program to find the area of a sphere
8. Write a program to find the volume of a cylinder
9. Write a program to find your age in days
10. Write a program to find the simple interest and compound interest

LAB : 3

SCOPE : Usage of various arithmetical operators

11. The total mechanical energy of a particle is given by $e=mgh+1/2 mv^2$
12. Write a program to convert the given seconds into hours - minutes-seconds
13. A milk vendor buys milk at the rate of 3.25/- the then adds a litre of water for every 4 liters of milk and sells the water milk at the rate of 4.15/ltr. Calculate the gain for milk vendor.
14. The temperature of the city is input through the keyboard in fahrenheit. Write a program to convert into Celsius
15. Two numbers are input into two locations 'a' and 'b' Write a program to interchange the contents of 'a' and 'b' without using temporary variables.
16. Given the coordinates of two points (x_1, y_1) and (x_2, y_2). Write a program to find the distance between these two points.

LAB : 4

SCOPE : Getting thoroughness with the input and output statements

17. Rajesh's basic salary is input through the keyboard. His D.A. is 40% of basic salary, and H.R.A. is 20% of basic salary. Write a program to calculate his gross salary.

18. The distance between two cities in Km. is input through the keyboard. Write a program to convert and print the result in meters and centimeters.
19. Write a program which accepts the amount in dollars and convert into rupees
20. Write a program to read your address and print it.
21. Write a program to print the area of a triangle if b and h values are given
22. Write a program to print the area of a triangle if three sides are given

LAB : 5

SCOPE : Knowing the usage of conditional statement 'if'

23. Write a program to read the marks of 3 subjects and display the total, avg, class
24. Write a program to check whether the given number is positive or negative
25. Write a program to find out the given number is odd or even
26. Write a program to find smallest of given two numbers.

LAB : 6

SCOPE : The usage of conditional statement 'if-else'

27. Write a program to find biggest of given three numbers
28. Write a program to check whether the given year is leap year or not.
29. Write a program to find the roots of a given quadratic equation and print the nature of roots.

LAB : 7

SCOPE : More on conditional statements

30. Write a program to read positive numbers continuously until negative number is given by using 'if'
31. Write a program to read ten numbers and print their sum by using 'if' statement
32. Write a program to read three sides a,b,c of a triangle and print the type of the triangle
 right angled triangle $(a*a)+(b*b)=(c*c) \parallel (b*b)+(c*c)=(a*a) \parallel (c*c)+(a*a)=(b*b)$
 equilateral triangle $(a==b) \&\& (b==c)$
 isocoles triangle $(a==b) \parallel (b==c) \parallel (c==a)$
 scalen $(a!=b \&\& b!=c \&\& c!=a)$

LAB : 8

SCOPE : Usage of 'if-else-if' and 'nested if'

33. Write a program to calculate the monthly income of a person using the following commission schedule : (use 'if-else-if' statement).
 Monthly sales Income
 \geq Rs. 50,000 Rs. 375+16% sales
 \geq Rs. 50,000 but \geq Rs. 40,000 Rs. 350+14% sales
 \leq Rs. 40,000 but \geq Rs. 30,000 Rs. 325+12% sales
 \leq Rs. 30,000 but \geq Rs. 20,000 Rs. 300+9% sales
 \leq Rs. 20,000 but \geq Rs. 10,000 Rs. 250+5% sales
 \leq Rs. 10,000/- Rs. 200+3% sales
34. Write a program to read a 3 digit number and find whether the middle digit is numerically equal to the sum of the other two digits and prints an appropriate response

35. A Company insures its drivers in the following cases
1. If the driver is married
 2. If the driver is unmarried, male and above 30 years of age
 3. If the driver is unmarried, female and above 25 years of age
- In all other cases, the driver is not insured. If the marital status, sex, age of the driver are the inputs, write a program to determine whether the driver is insured or not. (use 'nested-if').

LAB : 9

SCOPE : Processing on characters

36. Write a program to read the characters continuously until '\$' is given and display the number of characters entered.
37. Write a program to read a character and find out whether it is uppercase or lowercase
38. Write a program to print the uppercase letter of a given lowercase
39. Write a program to check whether the given input is digit or lowercase character or uppercase character or a special character (use 'if-else-if' ladder)
40. Do the above program by using 'case' statement

LAB :10

SCOPE : Usage of multiway decision maker

41. Write a program to read a vowel character and print any appropriate word by using "case"
42. Write a program to find the biggest number among 2 numbers by using case
43. Write a program to emulate a four function calculator which can perform addition, subtraction multiplication and division. Program should read two real numbers and an operator which tells the operation to be performed. Do it by using case.
44. Write a program to read a number and print how many number of 500, 100, 20, 10, 5, 2, 1 notes are available in the given amount by using case.
45. Write a program to accept a date and print it in words by using case.

LAB : 11

SCOPE Getting knowledge in iteration

46. Write a program to read your name and print it 'n' times
47. Write a program to find whether the given numbers existing in an array or not
48. Write a program to find the sum of 'n' natural number
49. Write a program to find the sum of 'n' distinct numbers
50. Write a program to find the sum of even 'n' natural numbers.

LAB: 12

SCOPE : Printing numbers in various formats

51. Write a program to display the numbers sequentially from 1 to 99 with 5 numbers on each line.
52. Write a program to display the numbers sequentially from 1 to 99 with 5 numbers on each column.
53. Write a program to read 9 elements and print the array elements in 3x3 matrix format.
54. Write a program to display the multiplication table for a given number

LAB : 13

SCOPE : Getting started to work with arrays

55. Write a program to find the biggest of the given numbers
56. Write a program to find the second smallest number and its position among the given 'n' numbers
57. Write a program to find the total number of +ve numbers, -ve numbers and zeros out of a given 10 real numbers
58. Write a program to print the numbers which are divisible by both 3 and 7 from 1 to 100.

LAB -14:

SCOPE : Using of while, for, and repeat loops

59. Write a program to find the given number is prime or not
60. Write a program to find the given number is perfect or not
61. Write a program to find the given number is automorphic or not
62. Write a program to find the given number is armstrong or not
63. Write a program to find the given number is palindrome or not

LAB : 15

SCOPE : Usage of mod and div operators

64. Write a program to find the sum and product of the individual digits of a given number
65. Write a program to accept maximum of 6 digits number and find out the sum of even digits of that number and multiplication of odd digits of that number
66. Write a program to find the number of digits of a given number
67. Write a program to print the reverse of a given number

LAB : 16

SCOPE : More on looping constructs

68. Write a program to find the factorial of the given number
69. Write a program to print all prime numbers from 1 to 99
70. Write a program to print the factorial prime from 1 to 99
71. Write a program to print Fibonacci series for a given number

LAB : 17

SCOPE : Processing on integer numbers using loops

72. Write a program to find 'n' power 'n' (n^n)
73. Write a program to find 'm' power 'n' (m^n).
74. Write a program to find 'm' power 'n' value without using (*)
75. Write a program to find the G.C.D. of 'n' numbers
76. Write a program to find the L.C.M. of 'n' numbers

LAB : 18

SCOPE : Getting thoroughness with arrays

77. Write a program to find the second biggest number from the given 'n' numbers
78. Write a program to find the second biggest, second smallest and replace their positions and then print the array elements

79. Write a program which reads the names of 5 sales persons into a one-dimensional array and their sales figure in each of six months into a two-dimensional array. The program then must print the total sales for each sales person and the grand total for the six months as well.
80. Write a program to display frequency table of an array elements

LAB : 19

SCOPE : Various processing on array elements

81. Write a program to suppress the negative elements into the down positions of an array.
82. Write a program to store 10 elements in an array, find the minimum element in the array subtract it from each element of the array and display the array elements
83. Write a program to read 10 elements in an array, keep last 5 elements in the first phase and first 5 elements in the last phase without using dummy array.

LAB : 20

SCOPE : Operation on array elements and exchanging array elements into different positions

84. Write a program to read 10 elements in to an array, find out the zeros from the first element of the array and keep the accumulation of the entire array, wherever zero has occurred.
85. Write a program to read the numbers into two arrays of each 5 and perform the following operations.
- | | |
|-------|-------|
| a [1] | b [1] |
| a [2] | b [2] |
| a [3] | b [3] |
| a [4] | b [4] |
| a [5] | b [5] |

LAB : 21

SCOPE : Conversion of numbers from one base to other

86. Write a program to convert the given integer into binary and vice versa
87. Write a program to convert the given integer into octal
88. Write a program to convert the given integer into hexadecimal

LAB : 22

SCOPE : Various operations on numbers

89. Write a program to find the positional value of the given digit in a number. If the given digit is occurred in various positions, then print all positional values
90. Write a program to print the given number in words

LAB : 23

SCOPE : Operation on numbers such as sorting and conversion

91. Write a program to sort the elements in ascending order
92. Write a program to sort the elements in descending order
93. Write a program to convert the given number in Roman letter

LAB : 24**SCOPE : More operations on numbers**

94. Write a program to print the ASCII values of numbers from 0 to 255, page by page
95. Write a program to print the multiples of a given number upto 200
96. Write a program to find the mean, variance and standard deviation of the given 'n' numbers

LAB : 25**SCOPE : Printing numbers in triangle patterns**

97. Write a program to print the floyd's triangle

```

1
2 3
4 5 6
7 8 9 10

```

98. Write a program to print the following triangle

```

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

```

99. Write a program to print the following triangle

```

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

```

LAB : 26**SCOPE : displaying number in various patterns**

100. Write a program to print the following triangle

```

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

```

101. Write a program to print the following triangle

```

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

```

102. Write a program to print the following triangle

```

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

```

LAB : 27**SCOPE : Showing different patterns of numbers**

103. Write a program to print the following triangle

```

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

```

104. Write a program to print the following triangle

```

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

```

105. Write a program to print the following triangle

```

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

```

LAB : 28**SCOPE : Resulting numbers in triangle formats**

106. Write a program to print the following triangle

```

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

```

107. Write a program to print the following triangle

```

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

```

108. Write a program to print the following triangle

```

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

```

LAB : 29**SCOPE : Various triangle patterns on numbers**

109. Write a program to print the following triangle

```

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

```

110. Write a program to print the following triangle.

```
1 2 3 4 5
  2 3 4 5
    3 4 5
      4 5
        5
```

111. Write a program to print the following triangle.

```
5 4 3 2 1
  5 4 3 2
    5 4 3
      5 4
        5
```

112. Write a program to print the following triangle.

```
5
  5 4
    5 4 3
      5 4 3 2
        5 4 3 2 1
```

LAB 30:

Scope : getting knowledge in positional print out.

113. Write a program to print the following triangle.

```
1
  2 1
    3 2 1
      4 3 2 1
        5 4 3 2 1
```

114. Write a program to print the following triangle.

```
5
  4 5
    3 4 5
      2 3 4 5
        1 2 3 4 5
```

115. Write a program to print the following triangle.

```
1
  2 2
    3 3 3
      4 4 4 4
        5 5 5 5 5
```

116. Write a program to print the following triangle.

```
5
  4 4
    3 3 3
      2 2 2 2
        1 1 1 1 1
```


LAB 31:**Scope : More on triangle Patterns**

117. Write a program to print the following triangle.

```

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

```

118. Write a program to print the following triangle.

```

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

```

119. Write a program to print the following triangle.

```

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

```

LAB 32:**Scope : Printing numbers in triangle formats.**

120. Write a program to print the following triangle.

```

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

```

121. Write a program to print the following triangle.

```

      1
     2 3 2
    3 4 5 4 3
   4 5 6 7 6 5 4
  5 6 7 8 9 8 7 6 5

```

LAB 33:**Scope : Displaying the numbers in various formats.**

122. Write a program to print the following.

```

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

```

123. Write a program to print the following

```
4
 4 3 4
 4 3 2 3 4
4 3 2 1 2 3 4
 4 3 2 3 4
 4 3 4
 4
```

LAB 34:

Scope : Printing numbers in triangle patterns with operations.

124. Write a program to print the following triangle.

```
1
 1 1
 1 2 1
 1 3 3 1
 1 4 6 4 1
 1 5 10 10 5 1
```

125. Write a program to print the following triangle for given number of rows:

```
1
 2 3
4 5 6
 7 8 9 10
11 12 13 14 15
```

LAB 35 :

Scope : Arithmetical Operations on numbers.

126. Write a program to compute the series.

$1+3+5+7+9+ \dots + n$

127. Write a program to compute the series.

$1+4+9+16+ \dots + n$

128. Write a program to compute the series.

$1+8+27+64+ \dots + n$

LAB 36 :

Scope : Performing arithmetic operations on numbers

129. Write a program to compute the series.

$1+3+6+10+ \dots + n$

130. Write a program to compute the series.

$1+4+8+11+ \dots + n$

131. Write a program to compute the series

$1!+2!+3!+4!+ \dots + n$

132. Write a program to compute the series.

$1!/1+2!/2+3!/3+4!/3+ \dots + n!/n$

LAB 37 :

Scope : More on arithmetic operations.

133. Write a program to compute cosine series.
 $1 - x^2/2! + x^4/4! - x^6/6! + \dots + x^n/n!$
134. Write a program to compute sine series.
 $1 - x^3/3! + x^5/5! - x^7/7! + \dots + x^n/n!$
135. Write a program to compute exponential series.
 $1 + x + x^2/2! + x^3/3! + x^4/4! + \dots + x^n/n!$
136. Write a program to compute the following series.
 $1.0 + 1.1 + 1.2 + 1.3 + \dots + 2.5$

LAB 38 :

Scope : More operations on numbers

137. Write a program to compute the following series.
 $1/1 + 1/3 + 1/5 + 1/7 + \dots + 2.5$
138. Write a program to compute the following series.
 $1 - x^2/(2^2 \cdot 1!) + x^4/(2^2 \cdot 2!) - x^6/(2^6 \cdot 3!)$
139. Write a program to compute the following series.
 $-1 + 2 - 4 + 8 - 16 \dots + 1024$
140. Write a program to compute the following series.
 $1/2 + 3/4 + 3/6 + \dots + 99/100$

LAB 39 :

Scope : Getting started to work with two dimensional arrays.

141. Write a program to add two matrices.
142. Write a program to subtract two matrices.
143. Write a program to multiply two matrices.

LAB 40 :

Scope : Various operations on two dimensional arrays.

144. Write a program to read two dimensional array and convert it into one dimensional array.
145. Write a program to find the trace of the matrix. [trace=sum of diagonal elements of the matrix]

LAB 41 :

Scope : More on two dimensional arrays.

146. Write a program to find the norm of the matrix
[norm=squaroot of the sum of the square of the elements of the matrix]
147. Write a program to find row sum and column sum of a matrix.
148. Write a program to print the upper and lower triangle of the given matrix separately

LAB 42 :

Scope : Performing positional operations on two dimensional arrays.

149. Write a program to print the diagonals of the matrix in the following form :

```
1 2 3 4      1      4
2 3 4 1      3 4
3 4 2 1      4 2
4 3 2 1      4      1
```

150. Write a program to print the inner square of the given matrix.

```
1 2 3 4
2 3 4 1      3 4
3 4 2 1      4 2
4 3 2 1
```

LAB 43 :

Scope : More on positional operations in array elements.

151. Write a program to find the outer square of the given matrix.

```
1 2 3 4      1 2 3 4
2 3 4 1      2      1
3 4 2 1      3      1
4 3 2 1      4 3 2 1
```

152. Write a program to read the given matrix and perform the required operation to print the given resultant matrix. (let us consider the array name as a. Then $a[2,2]=a[2,2]+a[2,3]$, $a[2,3]=a[2,3]+a[3,3]$, $a[3,3]=a[3,3]+a[3,2]$, $a[3,2]=a[3,2]+a[2,2]$)

```
1 2 3 4      1 2 3 4
2 3 1 4      2 4 3 4
4 3 2 1      4 3 2 1
```

153. Write a program to traverse the matrix helically

```
1 2 3
4 5 6 1 2 3 6 9 8 7 4 5
7 8 9
```

LAB 44 :

Scope : Getting thoroughness in matrix operations.

154. Write a program to check whether the given matrix is magic square or not. [magic square=column sum=row sum=diagonal sum and elements of the matrix should be distinct]
155. Write a program to find the saddle point of the given matrix.
[saddle point = minimum element in row and maximum element in that column]

LAB 45 :

Scope : Various matrix operations

156. Write a program to print the transpose of the given matrix.
[Transpose of a matrix=elements of the rows and columns are interchanged]
157. Write a program to check whether the given matrix is symmetric or not.
[symmetric=Transpose of the matrix is the same as given matrix]

158. Write a program to read the matrix and find out the zero's keep the difference between the row sum and the column sum of that position where the zero has occurred.

720	126
231	231
032	-432

LAB : 46

SCOPE : Implementing the recursion technique

159. Write a program to find the factorial of the given number using recursion
160. Write a program to print the fibonacci of the given series for a given number using recursion
161. Write a program to find the G.C.D. of the given number using recursion

LAB : 47

SCOPE : Implementing recursion technique on character processing

162. Write a program to find the sum of the 'n' natural numbers using recursion
163. Write a recursive function convert (number, base) to convert the given positive integer, to its equivalent number in another base
164. Write a program to solve the towers of hanoi problem recursively

LAB : 48

SCOPE : More on recursion technique

165. Write a program to find minimum and maximum of the given numbers recursively
166. Write a program to reverse the given 'n' number of characters recursively
167. Write a program to find the binomial coefficient using the formula (or) Write a program to find $N_C R$ value by using recursion. $N_C R = \frac{N!}{R!(N-R)!}$.
168. Write a program to accept any number and print the sum of that number up to a single digit recursively (Lucky number)

LAB : 49

SCOPE : Printing characters in triangle patterns

169. Write a program to print the following triangle

```
a
d i
t y a
```

170. Write a program to print the following

```
          a
        a d
      a d i
    a d i t
  a d i t y
a d i t y a
```

LAB : 50

SCOPE : Displaying characters in various patterns

171. Write a program to print the following

```
a d i t y a
a d i t y
a d i t
a d i
a d
a
```

172. Write a program to print the following

```
* * * * *
* * * * *
* * * * *
* * * * *
* * * * *
```

LAB : 51

173. Implement a program to calculate factorial of a number using static.
174. Writing a program to generate fibonacci number using static.
175. Accept any two numbers and find a big number.
Note : Use any 2 different files for processing the biggest number using extern.
176. Accept a string and find the total vowels and consonants. Use two functions and state storage space.
177. With the help of storage specifier REGISTER. Write a routine which will print your name 10 times on the screen.
178. With the help of auto, write a program which will print all ASCII values from 1 to 255.
179. With the help of static, which will find length of any string.
Don't use the STRLEN () function.
180. Use auto storage specifier to find LCM for 3 numbers.
181. Use extern storage specifier to find gcd for 2 numbers.
182. Use static storage specifier to concatenate two strings.

LAB : 52

SCOPE : Various operations on characters

183. Write a program read a string and print the occurrences of each character
184. Write a program to check whether the given string is palindrome or not
185. Write a program to read 'n' names and print it in ascending order
186. Write a program to read 'n' names and print the distinct names

LAB : 52

SCOPE : More operations on character processing

187. Write a program to read 'n' names and print the names which are occurred more than once
188. Write a program to read a string, a substring which is to be replaced and a substring which is to be placed and print the modified string
189. Write a program to read two strings and find both are same or not.

LAB : 53

SCOPE : More operations on character processing

- 190. Write a program to read a line of text and find the number of blank spaces
- 191. Write a program to read a line of text and find the number of words

LAB : 54

SCOPE : More operations on character processing

- 192. Write a program to read a line of text and find the number of words when the words are separated by more than one space
- 193. Write a program to read a line of text and find the words which are occurred more than once.

LAB : 55

SCOPE : More operations on character processing

- 194. Write a program to read a line of text and delete the characters which are occurred more than once
- 195. Write a program to read a line of text and convert all the lowercase into uppercase and vice versa

LAB : 56

SCOPE : More operations on character processing

- 196. Write a program to read a line of text and change the each word into upper and lowercase alternatively
- 197. Write a program to read a line of text and a word which is to be included into the text, and read a position where the given word is to be inserted

LAB : 57

SCOPE : More operations on character processing

- 198. Write a program to read a line of text and a word, delete that word wherever it has occurred
- 199. Write a program to count the number of vowels, consonants and white spaces of a given line text

LAB : 58

SCOPE : More operations on character processing

- 200. Write a program to read a paragraph and read a line number which is to be deleted and print the modified paragraph
- 201. Write a program to read a paragraph and read the range of line numbers to be deleted and print the modified paragraph.

LAB : 59

SCOPE : More operations on character processing

- 202. Write a program to read a paragraph and read a line of text and append that line into the given paragraph

203. Write a program to read a paragraph and read a line of text and a line number where the given line of text is to be included and print the modified paragraph.

LAB : 60

SCOPE : More operations on character processing

204. Write a program to keep on-line space between each word if there are more than one space has occurred in a given paragraph
205. Write a program to read a paragraph and a word, delete that word wherever it has occurred

LAB : 61

SCOPE : More operations on character processing

206. Write a program to read a paragraph and find out which word has occurred more number of times
207. Write a program to read a paragraph and display distinct words and their number of occurrences

LAB : 62

SCOPE : Various operations on structures

208. Write a program to read a student name, marks of three subjects and display these details with total marks and average by using structure
209. Write a program to read and store 5 employee records and print them in neat tabular format. Each employee record is consisting of eno, ename, bp, hra, ta, da, pf, tax.
210. Write a program to store your name, age, birth date into record and print. Do this program by using nested structure.

LAB : 63

SCOPE : Operations on structures

211. Write a program to store the following details into record and to print by using structure within structure feature
student name,
option
1 : (Telugu, English)
2. (Tamil, Malayalam, Hindi) total, avg, class.
212. Write a program to store the student details into record by using nested structure and print student no, student name, address
1 : Day scholar (h.no., street name, district name)
2. : hostler (room number)
213. Write a program to declare two different records called book1, book2 which are of same type, input the data into book 1 and copy the contents of book 1 to book 2 and print the contents of book2. The record book 1 is consisting of the following fields : book name, author name, price, date of publishing, number of pages.

LAB : 64

SCOPE : Following programs have to be done by using structures using nested structures and unions.

214. Write a program to accept name of captains of cricket teams, number of test played, date of birth, date of playing first test and age and print those details by using structure

- i) Write a program to create a data file for N blood donors
- ii) Use the data file to print out all the blood donors whose age is below 35 and blood is of 'O' type.

LAB : 69

SCOPE : More operations on files

229. Write a program to find out the number of vowel characters in a text which is stored in a text file.
230. Write a program which will read a text file and count all occurrences of a particular word
231. A file "marks. int" is a data file defined as an integer type. It contains the marks of 10 students. Read this file and find the average marks. Also write a program to append a file.

LAB : 70

SCOPE : More operations on files

232. Write a sequential file to eliminate the duplicate records. The name of the input file is "Sort.Dat". The output should be written to another file in the name of "Sort1.Dat". The content of "Sort.Dat" file is as follows :

Rama	101
Kosalai	102
Rama	101
Lakshman	103
Rama	101

233. Write a program to find a particular character and replace every occurrence of it by another character. (replace 'o' with 'a')

Input : Oracle is one of the most popular RDBMS

Note : Lab 71 - 80 : Exclusively for BCA Students.

LAB : 71

SCOPE : More operations on files

234. Write a program to beautify the text file, by giving left and right margins
235. Write a program which imitates DOS copy routine. The program must be capable of copying text and binary files
236. Write a program which copies a text file to another file but in reverse order. The file size could be extremely large and hence cannot be read entirely at a time

LAB : 72

SCOPE : More operations of files

237. Write a program to display the contents of the directory specified on the command line (using BIOS calls).
238. Write a program to merge two files into third file
239. Write a program to append the second file contents into the first file

LAB : 73

SCOPE : Various operations on pointers

240. Write a program to print the address of a variable through its pointer for all primitive data types.

241. Write a program to print the values of a variable through its pointer for all primitive data types.
242. Write a program to do all the arithmetic operations for two integer variables using pointers.

LAB : 74

SCOPE : More operations on pointers

243. Write a program to find the biggest and smallest number from an array of numbers using pointers
244. Write a program to concatenate two strings by using pointers
245. Write a program to compare two strings by using pointers
246. Write a program to find the length of a string by using pointers

LAB : 75

SCOPE : More operations on pointers

247. Write a program to exchange the values of two variables by using function (pass pointers as arguments to the function || call by reference).
248. Write a program to multiply two matrices by using pointers. (Use dynamically memory allocation for arrays)
249. Write a program to allocate a buffer of 3 integers first, and then increase its size by 3 bytes every time the buffer until -1 is given as input and print the entered integers (use realloc()).

LAB : 76

SCOPE : More operations on pointers

250. Write a program to read the student number, name, average score and print these details with appropriate grades by using pointers to structures
251. Write a program to read two strings and find the number of characters at the beginning of string 1 which are not in string 2 using pointers

LAB : 77

SCOPE : More operations on pointers

252. Write a program to arrange the elements of an array in ascending order using pointers
253. Write a program to sort string of an array using pointers

LAB : 78

SCOPE : Write a program to read strings which are separated by ';' and display the tokens only using pointers. (Use strtok()).

254. Write a program program which does the same of strspn \) using pointers

LAB : 79**SCOPE : More operations on pointers**

- 256. Write a program which does the same of strchr () using pointers
- 257. Write a program which does the same of strrchr () using pointers
- 258. Write a program which does the same of strcpy () using pointers

LAB : 80**SCOPE : More operations on pointers**

- 259. Write a program to read 3 numbers and print neither bigger nor smaller using pointers
- 260. Write a program to print the transpose of a matrix using pointer

Note : LAB 81-95, Exclusively For B.Sc Students**DATA STRUCTURES****LAB : 81****SCOPE : Operations on stacks**

- 261. Write a program to perform operations on stack
 - i) Creating Stack
 - ii) pushing an element into stack
 - iii) Popping an element from stack
- 262. Write a program to reverse a string using stack?

LAB : 82**SCOPE : More programs on Stacks**

- 263. Write a program to find factorial of a number using stack
- 264. Write a program to merge stacks into single stack

LAB : 83**SCOPE : Applications of Stacks**

- 265. Write a program to evaluate an expression
 - i) In order expression to pre order expression
 - ii) Post Order expression to pre order expression
 - iii) Pre order expression to In order expression

LAB : 84**SCOPE : Operations on Queues**

- 266. Write a program to perform operations on Queues :
 - i) Creating a Queue
 - ii) Inserting an element into a queue
 - iii) Deleting an element from a queue
- 267. Write a program for creating Circular Queue and operations on them :
 - i) Creating queue
 - ii) Pushing an element into circular queue
 - iii) Deleting an element from a circular queue

LAB : 85

SCOPE : More operations on Queues

268. Write a program to perform operations on Double ended Queue :

- i) Creating a queue
- ii) Inserting an element into a Dequeue
- iii) Deleting an element from a Dequeue

LAB : 86

SCOPE : Operations on Linked list

269. Write a program to perform operations on Single Linked list :

- i) Creating a single linked list
- ii) Inserting 1) at beginning 2) ending 3) any position
- iii) Deleting 1) at beginning 2) ending 3) any position

LAB : 87

SCOPE : More programs on linked list

270. Write a program to Sort a single linked list of names?

271. Write a program to pickup duplicate elements in a single linked list?

LAB : 88

SCOPE : More programs on linked list

272. Write a program to merge two single linked list into one single linked list?

273. Write a program to find no. of nodes in a single linked list?

274. Write a program to find biggest and smallest number in linked list?

275. Write a program to search the given number in linked list then display appropriate message?

276. Write a program to copy one linked list to another using recursion?

277. Write a program to turn off the duplicate elements in a single linked list ?

278. Write a program to create single list and do the all operations such as deleting inserting, updating using menu options?

LAB : 89

SCOPE : Operations on double linked list

279. Write a program to perform operations on double linked list

- i) Creating a double linked list
- ii) Inserting a) at beginning b) ending c) any position
- iii) deleting a) at beginning b) ending c) any position
- iv) updating a) at beginning b) ending c) any position

280. Write a program to compare two linked lists using recursion?

281. Write a program to create single circular linked list?

282. Write a program to create double circular linked list ?

283. Write a program to count number of nodes in linked list using recursion?

LAB : 90

SCOPE : Programs on trees

284. Write a program to create a tree (binary) and perform operations
i) Inserting an element into a tree ii) Deleting an element from a tree
285. Write a program to pick duplicates in a tree?

LAB : 91

SCOPE : More programs on Trees

286. Write a program to search an element in a tree?
287. Write a program to Traverse a tree in
i) in order ii) Pre order iii) Post order

LAB : 92

SCOPE : Sorting techniques

288. Write a program to sort n numbers using Bubble sort?
289. Write a program to sort n numbers using insertion sort?
290. Write a program to sort n numbers using Linear sort?

LAB : 93

SCOPE : More sorting techniques

291. Write a program to sort n numbers using quick sort?

LAB : 94

SCOPE : More sorting techniques

292. Write a program to sort n numbers using Heap sort?
293. Write a program to sort n numbers using selection sort?

LAB : 95

SCOPE : Searching techniques

294. Write a program to perform Binary search?
295. Write a program to perform Linear search?

LAB : 96

SCOPE : more searching techniques

296. Write a program to perform Hash search?
297. Write a program to perform Binary search using recursion?

