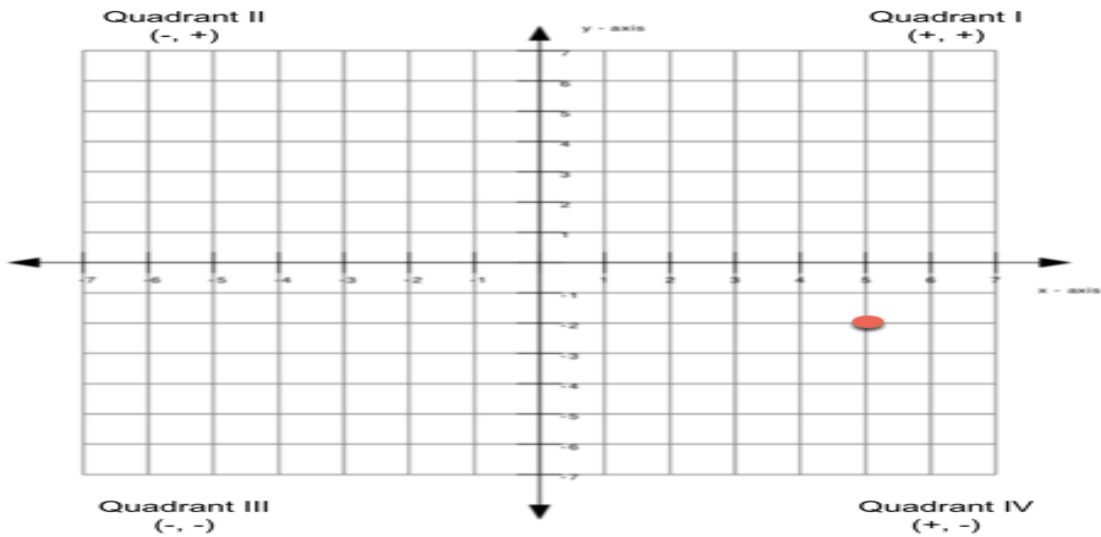


## Odd Semester 2021-2022

### ES202

#### List of Experiments

1. (a) Write a C program to add two numbers  
(b) Write a C program to add three numbers
2. (a) Write a C program to find area of circle  
(b) Write a C program to calculate simple interest
3. Write a C program to print a block F using hash (#), where the F has a height of six characters and width of five and four characters
4. Write a C program that accepts two item's weight (floating points' values) and number of purchase (floating points' values) and calculate the average value of the items
5. (a) Write a C program to swap two variables using a third variable  
(b) Write a C program to swap two variables without using a third variable
6. (a) Write a C program to convert a given integer (in seconds) to hours, minutes, and seconds.  
(b) Write a C program to convert specified days into years, weeks, and days.  
Note: Ignore leap year.  
Test Data :  
Number of days : 1329-3 years,33 weeks and 3 days
7. Write a program to find the area of triangle.  $\text{Area} = \sqrt{s(s-a)(s-b)(s-c)}$
8. Write a C program to check whether a number is even or odd.
9. Write a C program to check whether a given year is Leap year or not
10. (a) Write a C program to check whether a triangle is Equilateral, scalene, or isosceles  
(b) Write a C program to check whether a triangle is right angles, obtuse, acute triangle
11. Write a C program to covert temperature from Fahrenheit to Celsius and Celsius to Fahrenheit (User must provide the choice of type of temperature)
12. (a) Write a C program to check whether a character is an alphabet, digit  
(b) Write a C program a program to check whether an alphabet is a vowel or consonant
13. (a) Write a C program to find smallest of two numbers  
(b) Write a C program to find largest of three numbers
14. Write a program in C to implement Simple Calculator.
15. WAP to calculate the root of a Quadratic Equation
16. WAP to to accept a coordinate point in a XY coordinate system and determine in which quadrant the coordinate point lies.



17. Write a program to find gross salary of employee if DA is 40% of basic Salary and HRA is 20% of basic salary. Basic salary will be entered as input by keyboard.
18. Write a program in C to calculate and print the Electricity bill of a given customer. The customer id and unit consumed by the user should be taken from the keyboard and display the total amount to pay to the customer.

upto 199-----1.20

200-500-----1.80

Above 500-----2.00

If bill exceeds Rs. 400 then a surcharge of 15% will be charged and the minimum bill should be of Rs. 100/-

19. A library charges a fine for every book returned late. For first 5 days the fine is 50 paise, for 6-10 days, fine is one rupee and above 10 days, fine is 5 rupees. If you return the book after 30 days your membership will be cancelled. Write a program to accept the number of days the member is late to return the book and display the fine or appropriate message.
20. Write a program to find the factorial of any number.
21. Write a program to print Fibonacci sequence  
0 1 1 2 3 5 8 13..... N terms and prints the sum of sequence.
22. Write a program in C to accept an integer numbers and find sum of digits.
23. Write a program in C to accept an integer numbers and find reverse of this number and check this number for palindrome
24. Write a program in C to accept an integer numbers and to check a number is Armstrong or not
25. Write a program in C to accept an integer numbers and to check a number is Perfect or not
26. Write a program to find the sum of following series:  
**S = 2+4+6+8+.....N terms.**
27. Write a program to check a number whether it is prime number or not.
28. Write a program to find the sum of following series:  
 $1 - 1/2 + 1/3 - 1/4 + 1/5 - \dots$  up to n terms.
29. Write a program to find the sum of following series:  
 $1! + 2! + 3! + 4! + \dots + n!$
30. Write a program to find the sum of following series:  
 $S = -1^3 + 3^3 - 5^3 + 7^3 - 9^3 + 11^3 - \dots N$  terms.

31. Write a program to find the sum of following series:

$$S = 1/1! + 2/2! + 3/3! + \dots \dots \dots 7 \text{ terms.}$$

32. Write a program to convert binary number to decimal number.

33. Write a program to find the sum of following series:

$$S = 1^4 + 3^4 + 5^4 + 7^4 + \dots \dots \dots 100 \text{ terms}$$

34. Write a program in C to print the following pattern:

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

35. Write a program in C to print the following pattern:

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

36. Write a program in C to print the following pattern:

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

37. Write a program in C to print the following pattern:

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

38. Write a program in C to print the following pattern:

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

39. Write a program in C to print the following pattern:

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

40. Write a program in C to print the following pattern:

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

41. Write a program in C to print the following pattern:

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

42. Write a program in C to print the following pattern:

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

43. Write a program in C to print the following pattern:

```

3
2      2
1      1      1

```

44. Write a program in C to print the following pattern:

```

          *
        *   *   *
      *   *   *   *
    *   *   *   *   *
  *   *   *   *   *   *

```

45. Write a program in C to print the following pattern:

```

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

```

46. Write a program in C to print the following pattern:

```

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

```

47. Write a program in C to print the following pattern:

```

1
0 1
1 0 1
0 1 0 1
1 0 1 0 1

```

48. Write a program to print all prime numbers  $\leq$  a given number.

49. Write a program to convert Decimal no to Binary No.

50. Write a program to find product, sum, average, max and min from a list of n numbers.

51. Write a program in C to display the index of smallest and largest element in 10 integers

52. Write a program in C to display the index of smallest and largest element in 3 X 4 matrix of integers.

53. Write a program in C that accepts N\*N matrix as input and print transpose of this matrix

54. Write a program to accept two matrices of some order. (Order must be given by user) find out the sum of these matrices and print the sum of matrices.

55. Write a program to find out the product/Multiplication of two matrices and print the product matrix. (order of matrices must be given by user)

56. Write a program to accept two matrices of some order. (Order must be given by user) find out the subtraction of these matrices and print the sum of matrices.

57. Write a C Program to implement Simple Calculator (Addition, Subtraction, Multiplication, Division) using the concept of function

58. Write a C Program to swap two values using function

59. Write a C Program to Calculate the factorial of a number using function

60. Write a C Program to Calculate the factorial of a number using recursion

61. Write a C program to check whether a number is even or odd using functions.
62. Write a C program to check whether a number is Prime, Armstrong or perfect number using functions.
63. Write a C program to find all prime numbers between given interval using functions.
64. Write a C program to print all strong numbers between given interval using functions.
65. Write a C program to find power of any number using recursion
66. Declare a structure name student containing members name, roll\_no, marks. Create an array of 30 such students. Write a program to read and display the contents of array.
67. Write a simple database program in C which stores personal details of 100 persons such as Name, Date of Birth, Address, Phone number etc.
68. Write a program in 'C' that compares two given dates. To store a date, use a struct that contains three members namely day, month, and year. If the dates are equal, then display message as "equal" otherwise "Unequal".
69. Write a program which reads your name from the keyboard and outputs a list of ASCII codes, which represent your name.
70. Write a program which will read a text and count all occurrences of all characters which are part of text.
71. Write a program which will read a text and count all occurrences of a particular word.
72. Write a program which reads a string from the keyboard and determines whether the string is a palindrome (Ignore Capitalization)
73. Write macro definition with arguments for calculation of simple interest and amount. Store these macro definitions in a file called 'Interest.h'. Include this file in your program and use the macro definition for calculating simple interest and amount.
74. Write a program to copy the contents of one file to another file.
75. Write a program which will store ten integers to one file and squares of these numbers to another file.
76. Write a program which will store ten integers to one file and stores the odd and even numbers to respective files
77. Write a program to compare two given strings.