

List of Experiments

Basics of C:

Ques 1. Write a program to add two numbers.

Description:

- a) Both the numbers should be asked from user.
- b) Both the numbers and sum should be in floating points.

Ques 2. Write a program to calculate the Simple Interest.

Description:

- a) Ask for the values of Principle, Rate and Time from user.
- b) If value of Principle, Rate and Time is NEGATIVE or ZERO, an appropriate error should be displayed on the screen and program should terminate.

Ques 3. Write a program to calculate the AREA and PERIMETER of rectangle.

Description:

- a) Ask for values of Length and Breadth from the user.
- b) If value of Length and Breadth is NEGATIVE or ZERO, an appropriate error should be displayed on the screen and program should terminate.

Ques 4. Write a program to accept the marks of five subjects and find the Total and Percentage.

Description:

- a) Ask for the values of five subjects from the user.
- b) If value of any of the five subject is NEGATIVE or ZERO, an appropriate error should be displayed on the screen and program should terminate.

Ques 5. Write a menu driven program to convert FAHRENHEIT temperature CENTIGRADE or CENTIGRADE to FAHRENHEIT temperature.

Description:

- a) Ask for the values of FAHRENHEIT or CENTIGRADE from the user.

Ques 6. Write a program to accept a three digit number and find the Sum of digits of the number without using loops.

Ques 7. Write a program to accept a three digit number and find the Reverse number without using loops.

If condition:

Ques 8. Write a program to accept a number from the user and check if it is EVEN or ODD.

Description:

- a) Generate an appropriate error if the number entered is ZERO or NEGATIVE.

Ques 9. Write a program to check if the given Year is a Leap Year.

Description:

- a) Generate an appropriate error if the Year entered is ZERO or NEGATIVE.

Ques 10. Write a program to find if the number is POSITIVE, NEGATIVE or ZERO.

Ques 11. Write a program to find the Largest of Three numbers using Nested If.

Description:

- a) Generate appropriate message if the numbers are EQUAL.

Ques 12. Write a program to accept the marks of five subjects and find the Grades of the student using Else If Ladder.

Description:

- a) Generate appropriate message if the marks are greater than 100 or smaller than Zero.

Ques 13. Write a program to find the Larger of Two numbers Using TERNARY Operator.

Conversions:

Ques 14. Write a program to accept a Single Input character and check if it is an UpperCase, LowerCase, Digit or a Special Number.

Ques 15. Write a program to accept the case of a character without using the STANDARD function.

Description:

- a) Generate appropriate message if the Character entered is not an Alphabet.

Ques 16. Write a program to display ASCII number of the Alphabets and Digits.

Description:

- a) Generate appropriate message if the Character entered is not an Alphabet or Digit.

Ques 17. Write a program to convert a Decimal number To Binary number and Binary to Octal number.

Loops:

Ques 18. Write a program to find the Factorial of a number.

Description:

- a) Generate an appropriate error if the number entered is ZERO or NEGATIVE.

Ques 19. Write a program to find the Power of a number.

Description:

- a) Generate an appropriate error if the number entered is ZERO or NEGATIVE.

Ques 20. Write a program to find all the Prime numbers between 1 to N.

Description:

- a) Generate an appropriate error if the number entered is ZERO or NEGATIVE.

Ques 21. Write a program to print the Fibonacci series till the term entered from user.

Description:

- a) Generate an appropriate error if the number entered is ZERO or NEGATIVE.

Ques 22. Write a program to find the Sum of Digits of a number using do-while Loop.

Description:

- a) The number entered must be Three-Digit number or more, if it is not then display error message.

Ques 23. Write a program to find Sum and Average of 10 different numbers using While-Loop.

Ques 24. Write the program to print the following pattern:

```
A
A B
A B C
A B C D
A B C D E
```

Ques 25. Write the program to print the following pattern using Nested For:

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

Ques 26. Write the program to print the following pattern using:

```
987654321
111111111
9876543
333333
98765
5555
987
77
```

Ques 27. Write the program to print the following pattern using:

```
A B C D E F E D C B A
A B C D E   E D C B A
A B C D     D C B A
A B C       C B A
A B         B A
A           A
```

Ques 28. Write a program to generate the following Series:

Sum = $X + X/2! + X/4! + \dots + X/N!$

Description:

- a) Generate an appropriate error if X is Zero and N is ZERO or NEGATIVE.
- b) Ask for value of X and N from user.

Ques 29. Write a program to perform a calculator using **switch** case.

Description:

- a) Ask for two numbers and choice from user.
- b) Operations to be performed are: +, -, *, /, %.
- c) Check for zero value of denominator for division and remainder.

Arrays:

Ques 30. Write a program to accept 10 numbers in an array and find the largest and smallest number.

Ques 31. Write a program to sort an array in ascending order using **Bubble sort**.

Ques 32. Write a program to search an element in an array.

Description:

- a) Ask for size of array, array, and item to be searched from user.
- b) Display position of the element if element is found and appropriate message if element is not found.

Ques 33. Write a program to add elements of two square matrices and store the result in third matrix.

Ques 34. Write a program to subtract elements of two square matrices and store the result in third matrix.

Ques 35. Write a program to multiply elements of two square matrices and store the result in third matrix.

Ques 36. Write a program to display and find sum of both the diagonals of a square matrix.

Description:

- a) Ask for number of rows and columns of matrix from the user.
- b) Display the complete matrix.
- c) Display the diagonals of the matrix.
- d) Display the sum.

Ques 37. Write a program to display upper triangle section of a square matrix.

Description:

- a) Ask for number of rows and columns of matrix from the user.
- b) Display the complete matrix.
- c) Display the diagonals of the matrix.
- d) Display the upper triangle portion of the matrix.

Functions:

Ques 38. Write a program to calculate cube of a numbers 1 to 10 using functions.

Description:

- a) Function should receive number as an argument.
- b) Function should return the cube of the number, the cube should be displayed in the void main.

Ques 39. Write a program to find factorial of a number using functions.

Description:

- a) Function should receive number as an argument.
- b) Function should return the factorial of the number, the factorial should be displayed in the void main.

Ques 40. Write a program to calculate area of circle using functions.

Description:

- a) Function should receive radius as an argument.
- b) Function should return the area, the area should be displayed in the void main.

Recursion:

Ques 41. Write a program to find factorial of a number using recursion.

Ques 42. Write a program to find Fibonacci series using recursion.

Ques 43. Write a program to find the sum of digits of a number using recursion.

Pointers:

Ques 44. Write a program to swap two numbers using pointers and functions.

Ques 45. Write a program to add two matrices using pointers.

Strings:

Ques 46. Write a program to check whether a string is palindrome or not.

Ques 47. Write a program to count length of string.

Ques 48. Write a program to count the number of vowels in a string.

Structures:

Ques 49. Write a program to ask and display details of 10 students using structure.

Ques 50. Write a program to copy a structure object into another object using structures and functions.

Description:

- a) Function should receive both objects as arguments.