Set 1.

Write a program to add two numbers.
Write a program to calculate area of a circle.
Write a program to swap two numbers
Write a program to check whether a number is even or odd
Write a program to check whether a given number is divisible by 5 or not
Write a program to to find greater between two numbers
Write a program to to find greater among three numbers
Write a program to find roots of a quadratic equation
Ascii values of a character
LCM of two numbers

Set 2.

Write a program to to find greater among three numbers

Write a program to swap two numbers without third variable.

Write a program to check leap year

Print leap years for next 20 years.

Write a program to print first N natural numbers. (N is given by user)

Write a program to print first 10 natural numbers in reverse order.

Write a program to print table of user's choice(in proper format 2 * 3 = 6)

Write a program to calculate sum of first N natural numbers

Write a program to calculate product of first N natural numbers

LCM of two numbers

Write a program to calculate GCD of two numbers.

Set 3.   <u>KSF</u>

Write a program to calculate factorial of a number

Write a program to calculate sum of first N <u>even</u> natural numbers

Write a program to calculate sum of first N <u>odd</u> natural numbers

Write a program to calculate x power y.(when user input x is 2 and y is 3 then the result will be 8)

Write a program to count digits in a given number.

Write a program to reverse the digits of user inputted no. Eg: I/p: 54786 o/p: 68745

Write a program to calculate sum of the digits of a given number

Write a program to print all Armstrong numbers under 1000.

Write a program to print first N terms of Fibonacci series

Write a program to calculate LCM of two numbers

Set 4.

Write a program to calculate GCD of two numbers

Prime number or not

Palindrome or not

Armstrong number check for n digits.

Strong number or not

Perfect number or not

Automorphic number or not

Prime numbers in a given range

Replace all 0's with 1 in a given integer(I/p: 907604 o/p: 917614)

A character is a vowel or a consonant

Write a program to check co-prime number

Set 5. KSF

Write a program to find largest of n numbers. (without using array)

Write a program to find second largest among n numbers .(without using array)

Write a program to print all prime numbers upto n.(n is user input)

Write Program to print all numbers upto n which are prime and are ending with 7.

Pattern's

First
1 to 13 pattern questions.

Second

All 36 patterns from https://www.youtube.com/playlist?list=PL7ersPsTyYt2prN058WfA_j3ElgwD1bht

Third

Enter the no. of lines: 8

```
              1
            1   1
          1   2   1
        1   3   3   1
      1   4   6   4   1
    1   5  10  10   5   1
  1   6  15  20  15   6   1
1   7  21  35  35  21   7   1
```

Pascal's triangle

3.
Input : n = 3

Output :

```
1*2*3*10*11*12
--4*5*8*9
---6*7
```

Input : n = 4

Output :

```
1*2*3*4*17*18*19*20
--5*6*7*14*15*16
---8*9*12*13
------10*11
```

1. Write a program to find no. Of elements in an array.
2. Write a program to find sum of all array elements.
3. Write a program to store marks of 5 subject/100 and print the total marks and calculate percentage. -> 82.00% (round off)
4. Write a program to count total no. Of even and odd elements in an array.
5. Write a program to find greatest among 10 numbers.
6. Write a program to find second greatest among 10 numbers
7. Write a program to find smallest among 10 numbers.
8. Write a program to find second smallest among 10 numbers.
9. Write a program to find sum of positive square elements in an array.
10. Print the non-repeating elements of an array.

Set 8   **KSF**

11. **Print the distinct elements of an array.**
    Input – 10,20,20,30,30,40 output = 10 20 30 40
12. **Print the repeating elements in an array.**
    Input – 10,20,20,30,30,40 output = 20 30
13. **Write a program to print the odd differences between consecutive elements.(20 elements)**
14. **Write a program to print the even differences between consecutive elements.(20 elements)**
15. **Write a program to replace 0's with 1 and count how many 1 elements are present in array.**

Set 9 Array Misc

1. Write a program to find frequency of each elements in an array.
   10 20 10 20 10 30 40 : 10 occues 3 times 20 occurs 2 times 30 1 time 40 1time

2. Write a program to remove duplicate elements in an array.

3. Write a program to reverse an array.

 10 20 10 30 40 : 40 30 10 20 10

4. Write a program to rotate an array by n positions

Set 10 : Insert

1. Write a program to insert an element at end of array.
2. Write a program to insert an element at beginning of array.
3. Write a program to insert an element at given index (index ; user I/p) of array.
4. Write a program to insert an element after given index (index ; user I/p) of arr
5. Write a program to insert an element before given index of array.

Set 11. -Delete Merge   KSF

1. Write a program to find minimum scaler product of vectors.
2. Write a program to find maximum scaler product of vectors.
3. Write a program to find triplets with given sum.
4. Write a program to merge two array and reverse it.
5. Write a program to delete at user input position in array.
6. Write a program to delete values(user input) present in array.
7. Write a program to find the largest palindrome in an array.
   { 1 12 121 12321}
8. Write a program to find the maximum gcd between two consecutive elements in an array.
   { 12 13 22 34 34 }
9. Write a program to convert all float values in an array into nearest integer.
   Eg: if 9.8 then convert it to 10 , if 1.2 convert it to 1.
   { 1.2 1.3 1.9.2.9} -> { 1 1 2 3}
10. Write a program to delete all duplicate elements in an array.
   Eg: I/p = 1 2 3 1 4 1 2 then o/p = 1 2 3 4

Set 12. - Searching Sorting   KSF

1. Write a program to search an element in an array using liner search.
2. Write a program to search an element in an array using binary search.
3. Write a program to explain insertion sort.
4. Write a program to explain quick sort.
5. Write a program to explain selection sort.
6. Write a program to explain merge sort.
7. Write a algorithm & program to explain bubble sort.

1. Write a program to add two matrix.(2*3)
2. Write a program to multiply two matrix.
3. Write a program to find transpose of a matrix.
4. Write a program to check whether two matrices are equal or not.
5. Write a program to check if diagonal of matrix are 0 or not.
6. Write a program to print upper diagonal and lower diagonal elements of a matrix.
7. Write a program to find the largest and smallest value present in matrix.
8. Write a program to find sum of all rows elements and all columns elements and print the average difference between them.
9. Write a program to check matrix is upper triangular or not.
    1111   (if elements below diagonal elements are 0)
    0111
    0011
    0001
10. Write a program to check matrix is lower triangular or not.
            (opp. Of above if elements above diagonal are 0)
11. Rotate the matrix clock-wise and print and anti-clockwise and print.

Set 14   <u>**KSF**</u>

1. Write a program to count no. Of vowels in a string.
2. Write a program to remove vowels from a string.
3. Write a program to remove spaces from string. // I am programmer\0
4. Write a program to check string is palindrome or not.
5. Write a program to count words in a sentence.
6. Write a program to sort string in alphabetical order.
7. Write a program to capitalize first and last character of string.
   Input ; good day o/p ; GooD DaY
8. Write a program to find frequency of each character in a string.
9. Write a program to find non-repeating characters in a string.
10. Write a program ,to concatenate two string. Add ",(comma)" after first sentence
    then add another sentence.

1. Write a program to reverse a string word wise.

        I/p : kumar sparsh o/p : sparsh kumar

2. Write a program to remove adjacent characters from string.
3. Write a program to sort string in dictionary order.
4. Write a program to transform first letter of sentence to upper case.
5. Write a program to check string is anagram or not.
6. Write a program to check weather string is alphanumeric or not.
7. Write a program to replace substring with a new string.
8. Write a program to find occurence of particular substring in a string.
9. Write a program to remove characters form string except alphabets.
10. Write a program to replace character 'a' with 'b' in a string.
11. Write a program to replace substring "The" with "KSF" in a sentence.

Set 16- Functions   (function return type mentioned)   KSF

1. Write a function to calculate factorial of a number.(use float)
2. Write a function to calculate area of a circle. (use float)
3. Write a function to calculate sum of first N natural numbers. (use int)
4. Write a function to calculate sum of squares of first N natural numbers. (use int)
5. Write a program to express a given number as a sum of two prime numbers. (use void)
6. Write a program to check string is anagram or not. (use void)