|  |  |
| --- | --- |
| **IF** | **6** |
| **LOOP** | **12** |
| **Nested For loop** | **6** |
| **Recursive function** | **5** |
| **Array** | **19** |
| **String** | **14** |

**IF**

1. Swap 2 variable without using 3rd variable .(three answer)
2. Accept three no and find out the highest no.
3. Accept a number from user - if it is divisible by 3 print “three” , if it is divisible by 7 print “seven” and if it is divisible by both(3,7) print “three -seven”
4. Accept a number from user check if it is odd or even number
5. Accept a number from user check if it is odd or even number without using (modular) % operator
6. Find out minimum string sequence(CDAC question)

I/P Specification : in given String in check 1 how many time occurs minimum.if no any 1 in string then print -1.

O/P Specification : Print the number.

1 ) Sample I/P

11000100001111111

O/P

1

2 ) Sample I/P

0001111111

O/P

7

**LOOP**

1. Accept 10 number user and do sum of it.(do not use array)
2. Accept a number from user and find a factorial of a number
3. Accept a number from user and do sum of digit
4. Accept a number from user and count number of digits
5. Accept a number from user and reverse it.
6. Accept a number from user and check if it is palindrome number or not eg (121)
7. Accept a number from user and print next 5 numbers.
8. Accept a number from user and print that many numbers after the number.
9. Accept term from user and print Fibonacci series
10. Accept 10 number from user and print highest number
11. Accept 10 number from user and print lowest number.
12. Accept 10 number from user and print highest and 2nd highest number.

**Nested Forloop** Pattern

|  |  |  |
| --- | --- | --- |
| 1  12  123 | 1  22  333 | 1  2 2  3 3 3 |
| 1  23  456 | 1  12  123 | 1  21  321 |
| 1  121  12321 | 1  121  12321  121  1 | 32123  323  3 |
| 1  222  33333 | 0  101  21012 | zyxyz  zyz  z |
| a  ab  abc | \*  \*\*  \*\*\*  \*\*\*\* | \*\*  \* \*  \*\* |
| 111112  322222  333334  544444  555556  766666 | 1  121  12121 | 1  2 5  3 6 8  4 7 9 10 |
| 1  2 4  3 6 9  2 4  1 | 1  232  34543  4567654  567898765  67890109876  7890123210987  890123454321098  90123456765432109  0123456789876543210 |  |

1. Write program to print following pictures.

ABCDEFGHIJKLMNOPQRST

ACEGIKMOQS

ADGJMPS

AEIMO

Q3 Write a program to generate the following figure using loop construct

ABCDEBCDECDEDEE

ABCDEBCDECDEDE

ABCDEBCDECDE

ABCDEBCDE

ABCDE

Q4 Accept a number from user and check if it is prime number or not

Q5 Print all prime number between 51 to 100

Q5Print twin prime number between 1 to 20

Q6 Accept a number from user and print that many prime number after the number

**Recursive function**

1. Find factorial of a number
2. Find binary of a number
3. Find Fibonacci series
4. Find HCF
5. Accept a number from user and do sum of digit

**Array**

1. Accept 5 number in an array, accept a number from user and check if given number is there in an array or not
2. Accept 5 number in an arrayand sort it (bubble sort)
3. Accept 5 number in an array and sort it (selection sort)
4. Accept 5 number in an array and sort it (insertion sort)
5. Accept two set of array each having 5 element sort it and put it in new array
6. Accept 5 number in an array, accept a number from user and check if given number is there in an array or not

use binary search

1. Accept 5 number in an array ( repeat numbers ) print unique array
2. Accept data in 3\*3 matrix two times and do the sum of it
3. Accept data in 4\*4 matrix and transpose it
4. Accept data in 4\*4 matrix and check if it is magic square or not
5. Accept data in 3\*3 matrix and print row wise and column wise total
6. Accept 10 number in an array and print highest 3 number
7. Accept 5 number in an array and display message entered data is in ascending/descending or not sorted
8. Accept 10digit number print longest ascending number
   1. Eg 2156897456 o/p 156897
9. calculate sum of element at a particular index with each of its adjacent element and find out the max and minimum sum for example

2 5 3 6 1

6 9 8 8 2

4 7 6 1 3

3 5 4 8 9

if 2nd row and 3rd column number i8 sum(8+9,8+3,8+8,8+6) here max is 17 and min is 8+3=11

Q16 let user enter number 0 to 15 and you accept them as follows

0 2 5 9

1 4 8 12

3 7 11 14

6 10 13 15

Q17.take two array from the user separated by space atleast one of them should be of 20 inlength. and none of them is more than 40 in length. and it should gives the new o/p array followed by new line with sum of above array

sample input :999 11111111111111111111

o/p 11111111111111112110

Q18 Accept a data in 9\*9 matrix , element allowed is between 1 to 9 no duplicate value allowed row and column wise this 9\*9 matrix has 9 set of 3\*3 matrix and this 3\*3 matrix should not have repeated entry .

This is program of Sudoku

Q19 Accept data in 3\*3 matrix if any row has all 0 replace it with ‘#’ and print the matrix

input:

|  |  |  |
| --- | --- | --- |
| 0 | 0 | 0 |
| 0 | 1 | 3 |
| 0 | 4 | 5 |

Input :

|  |  |  |
| --- | --- | --- |
| 0 | 5 | 0 |
| 0 | 0 | 0 |
| 7 | 0 | 5 |

Input :

|  |  |  |
| --- | --- | --- |
| 0 | 0 | 0 |
| 1 | 0 | 3 |
| 7 | 0 | 5 |

out put:

|  |  |  |
| --- | --- | --- |
| # | # | # |
| # | 1 | 3 |
| # | 4 | 5 |

output:

|  |  |  |
| --- | --- | --- |
| 0 | 5 | 0 |
| # | # | # |
| 7 | 0 | 5 |

output:

|  |  |  |
| --- | --- | --- |
| # | # | # |
| 1 | # | 3 |
| 7 | # | 5 |

**String**

1. Accept string from user , accept a character from user and count the occurrence of the same
2. Accept string and check if it is palindrome or not eg(nitin)
3. Accept a string and reverse it.
4. Accept a sentence from user and count number of words
5. Accept two string append 1st one with the second one
6. Accept two string and check both are same or not
7. Accept 5 name from user and print their name in ascending order
8. Accept 5 name from user , accept a name from user and check that name is there in array or not
9. Accept a string accept a character and delete all occurrence of that characterWrite a program to extract the portion of a string and print the extracted string. Assume that m characters are extracted, starting from n character
10. Accept a start and end range of a character,eg start A end F (CDAC question)
    1. Ask user to enter any character between that range
    2. You have to print which character user has not entered
    3. Eg input start A end F entered character by user are BEF o/p ACD
11. Read a five-letter word into the computer, then encode the word on a letter-by-letter basis by

subtracting 30 from the numerical value that is used to represent each letter. Thus if the ASCII

character set is being used, the letter a (which is represented by the value 97) would become a C

(represented by the value 67), etc.

Write out the encoded version of the word. Test the program with the following words: white, roses,

Japan, zebra.

Q12 suppose you have entered the paragraph as input and used “#” to end the paragraph.

now gives the count of occurance of all alphabets in para from “a” to “z” each alphabet and its occurance should display as the output

Q13

you have to write a program to count the number of words in the input. The program should read in the input text till end\_of\_file (EOF) and output the number of words found. A word can be taken to be a sequence of alphanumeric characters terminated by a space or by a newline. Assume that there will not be any characters other than alphanumeric (a-z, A-Z, 0-9) and white spaces (blank, tabs and newlines) in the input.

Input:

This is a sample line of text

This is another line of text

This line is the 3rd line

This junk line contains 989902 99dsaWjJ8 015

This is the fifth and the last line of input

Output:

36

Input:

ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz0123456789

Output:

1

Q14 Accept an alphabet from user and display next 5 alphabets. E.g. If user enters 'D' then output should be E F G H I.

If the character entered is X, then output should be Y Z a b c. ( it should not display non alphabets).

If entered character is not an alphabet,display proper error message

**DS**

1. Write a program to maintain a singly linked list having the following functions:

a. Creation of the list

b. Displaying the list.

c. reverse the linklist.

d. Traverse through the linked list and subtract two consecutive nodes. The result

should be inserted just before the nodes subtracted.

E.g.: 4 15 8 14 2 6

Output: -11 4 15 -6 8 14 -4 2 6

d.

1. Write a program to maintain a singly linked list having the following functions:
   1. Creation of the list
   2. Displaying the list.
   3. Sort list
   4. Insert node
   5. Delete node
2. Stack
3. Que