Date: 13.09.2024 ,

Problem 1

Write a program that takes a character as input and prints 1, 0, or -1 according to the following rules.

1, if the character is an uppercase alphabet (A - Z).

0, if the character is a lowercase alphabet (a - z).

-1, if the character is not an alphabet.

Example:

Input: The character is 'a'.

Output: 0

Explanation: The input character is lowercase, so our answer is 0.

Sample Input 1:

v

Sample Output 1:

0

Explanation of Sample Input 1:

The input character is lowercase, so our answer is 0.

Sample Input 2:

V

Sample Output 2:

1

Explanation of Sample Input 2:

The input character is uppercase, so our answer is 1.

Sample Input 3:

#

Sample Output 3:

-1

Explanation of Sample Input 3:

The input character is not an alphabet, so our answer is -1.

Problem no 2.

Given a number N, print sum of all even numbers from 1 to N.

Sample Input 1:

6

Sample Output 1:

12

Sample Input 2:

7

Sample Output 2:

12

Problem no 3.

Write a program to calculate the total salary of a person. The user must enter the basic salary (an integer) and the grade (an uppercase character), depending upon which the total salary is calculated as:

Total salary = Basic + HRA + DA + Allow – PF

where:

HRA = 20% of basic

DA = 50% of basic

Allow = 1700 if grade = ‘A’

Allow = 1500 if grade = ‘B’

Allow = 1300 if grade = ‘C' or any other character

PF = 11% of basic.

Round off the total salary and then print the integral part only.

Sample Input 1:

10000 A

Sample Output 1:

17600

Sample Input 2:

4567 B

Sample Output 2:

8762

Explanation of Input 2:

We have been given the basic salary as Rs. 4567. We need to calculate the hra, da and pf.

Now when we calculate each of the, it turns out to be:

hra = 20% of Rs. 4567 = Rs. 913.4

da = 50% od Rs. 4567 = Rs. 2283.5

pf = 11% of Rs. 4567 = Rs. 502.37

Since, the grade is 'B', we take allowance as Rs. 1500.

On substituting these values to the formula of totalSalary, we get Rs. 8761.53 and now rounding it off will result in Rs. 8762 and hence the Answer

Question no 4.

Write a program to input an integer ***'n'*** and print the sum of all its even digits and the sum of all its odd digits separately.

Digits mean numbers, not places! That is, if the given integer is "132456", even digits are 2, 4, and 6, and odd digits are 1, 3, and 5.

Example:

Input: 'n' = 132456

Output: 12 9

Explanation:

The sum of even digits = 2 + 4 + 6 = 12

The sum of odd digits = 1 + 3 + 5 = 9

Question no 5.

Write a program to find x to the power n (i.e. x^n). Take x and n from the user. You need to print the answer.

Note: For this question, you can assume that 0 raised to the power of 0 is 1

Input format:

Two integers x and n (separated by space)

Output Format:

x^n (i.e. x raises to the power n)

Constraints:

0 <= x <= 8

0 <= n <= 9

Sample Input 1:

3 4

Sample Output 1 :

81

Sample Input 2:

2 5

Sample Output 2:

32

Question no 6.

Print the following pattern for the given N number of rows.

Pattern for N = 4

*

**

***

****

Note: There are no spaces between the stars (*).

Sample Input 1:

5

Sample Output 1:

*

**

***

****

*****

Sample Input 2:

6

Sample Output 2:

*

**

***

****

*****

******

Question no 7.

Print the following pattern for the given N number of rows.

Pattern for N = 4

1

22

333

4444

Sample Input 1:

5

Sample Output 1:

1

22

333

4444

55555

Sample Input 2:

6

Sample Output 2:

1

22

333

4444

55555

666666

Question no 8.

Print the following pattern for the given N number of rows.

Pattern for N = 4

1

21

321

4321

Sample Input 1:

5

Sample Output 1:

1

21

321

4321

54321

Sample Input 2:

6

Sample Output 2:

1

21

321

4321

54321

654321

Question no 9.

Print the following pattern for the given N number of rows.

Pattern for N = 4

4444

333

22

1

Sample Input 1:

5

Sample Output 1:

55555

4444

333

22

1

Sample Input 2:

6

Sample Output 2:

666666

55555

4444

333

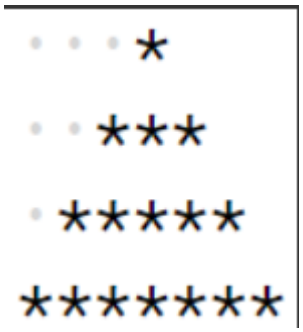
22

1

Question no 10.

Print the following pattern

Pattern for N = 4



Sample Input 1:

3

Sample Output 1:

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

Sample Input 2:

4

Sample Output 2:

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

---------- THE END----------