

Programing Fundamentals
Lab # 08
Nested Iteration

Q1: Write a program in which user will enter a no of his choice and the program will display the sum of factorials till that no.

Means if the user enters 5, the program should calculate the following

$1! + 2! + 3! + 4! + 5!$

And display the output in the following manner.

Sample Output:

$1! = 1$

$2! = 2$

$3! = 6$

$4! = 24$

$5! = 120$

sum : 153

Q2: Write a python program that print a pattern.

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

Q3: Write a python program that print a pattern.

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

Q4: Write a Python program to construct the following pattern, using a nested loop.
Take the no of rows from user.

Output:

How many rows? 10

10 9 8 7 6 5 4 3 2 1

10 9 8 7 6 5 4 3 2

10 9 8 7 6 5 4 3

10 9 8 7 6 5 4

10 9 8 7 6 5

10 9 8 7 6

10 9 8 7

10 9 8

10 9

10

Q5: Write a python function to construct the following pattern, using a nested for loop. User should enter a symbol e.g *, ^, @, - etc, and your function should a pattern like this of that symbol.

Output:

Enter a char : @

How many rows : 5

@ @ @ @ @

@ @ @ @

@ @ @

@ @

@

Q6: Write a python program that takes an integer from user and print a half diamond pattern using nested loops.

Here the no from the user is the no of row after which the pattern will start to invert.

Output:

Enter a char : @

how many rows : 5

@

@ @

@ @ @

@ @ @ @

@ @ @ @ @

@ @ @ @

@ @ @

@ @

@