

1. Write a Program to Calculate Permutation( $nCr$ ) for given values of  $n$  and  $r$   
The  **$nCr$**  formula is:

$${}_nC_r = \frac{n!}{r!(n-r)!}$$

2. Write a program that ask for an integer value from the user and then prints the length of the value using loop.

**Sample Output:**

```
Enter an integer 521
The Length of Entered Value is  3

Enter an integer 654321
The Length of Entered Value is  6
```

3. Write a program that takes a number from the user and tell us whether the entered number is prime or not.

4. Write a Python function to construct the following patterns, using a for loop

## Python Patterns

```
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##
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```

```
#                                     #
##                                    ##
###                                   ###
####                                  ####
#####                               #####
#####                             #####
#####                           #####
#####                         #####
#####                     #####
#####                 #####
#####             #####
```

```
          #
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#####
#####
```

```
          #          #
        #          #
       #          #
      # #
     #
    # #
   #          #
  #          #
 #          #
#          #
```