```
dict = {}
for i in range(1,11):
    dict[i] = i*i
print(dict)
```

```
{1: 1, 2: 4, 3: 9, 4: 16, 5: 25, 6: 36, 7: 49, 8: 64, 9: 81, 10: 100}
```

write a program to check prime number

```
def prime(number):
  if number <= 1:
    return False
  for i in range(2, int(number**0.5) + 1):
    if number % i == 0:
     return False
  return True
num = int(input("Enter your number: "))
if prime(num):
  print(f"{num} is a prime number.")
else:
  print(f"{num} is not a prime number.")
```

```
Enter your number: 5
5 is a prime number.
```

The population of a town is 10,000. It increased by 10% during the first year. During the second year, it decreased by 20% and increased by 30% during the third year. What is the population after 3 years?

Read more at: https://edurev.in/question/2238655/The-population-of-a-town-is-10-000--It-increased-by-10--during-the-first-year--During-the-second-yea

```
population = 10000 * (110/100) * (80/100) * (130/100)
print(f"Population after 3 years is {int(population)}")
```

```
Population after 3 years is 11440
```

Double-click (or enter) to edit

```
def gcd(num1,num2):
    if num2 == 0:
        return num1;
    return gcd(num2, num1 % num2)
#taking inputs from the user
num1 = int(input("Enter first number: "))
num2 = int(input("Enter second number: "))
print("hcf/gcd of",num1,"and",num2,"=",gcd(num1,num2))
```

```
Enter first number: 4
Enter second number: 7
hcf/gcd of 4 and 7 = 1
```

Caluculate the count of digits in a given number

```
num = int(input("Enter your number: "))
count = 0
while num >0:
  num = num // 10
  count += 1
print("Number of digits are: ", count)
```

```
Enter your number: 123456789
Number of digits are:  9
```

write a python program that acccepts a integer number (n) & computes the value of n + nn + nnn.

```
n = input("Enter integer value of n: ")
print("n is: ", n)
nn = n + n  #nn
print("nn is: ", nn)
nnn = n + n + n  #nnn
print("nnn is: ", nnn)
c = int(n) + int(nn) + int(nnn)
print("The value of given expression is ", c)
```

```
Enter integer value of n: 2
n is:  2
nn is:  22
nnn is:  222
The value of given expression is  246
```

Print all factors of user provided number

```
num = int(input("Enter your number: "))
factor = 0
for i in range(1,num+1):
  if num%i ==0:
    factor += 1
    print(f"factor {factor} is {i}")
```

```
Enter your number: 6
factor 1 is 1
factor 2 is 2
factor 3 is 3
factor 4 is 6
```

Find the reverse of a any digit number provided by the user.

```
n = int(input("Enter your number: "))
reversed = 0
while n > 0:
  rem = n % 10
  n = n //10
  reversed = reversed*10 + rem
print("The reverse number is ", reversed)
```

```
Enter your number: 123456789
The reverse number is  987654321
```

write a program that will keep on taking numbers from the user untill user provides zero, and display the sum of numbers and avg.

```
num = int(input("Enter a number: "))
sum = 0
count = 0
while True:
  if num != 0:
    sum = sum + num
    count = count + 1
    num = int(input("Enter another number: "))
  else:
    avg = sum/count
    print("Thank you!")
    print("Your sum is", sum, "& avg is ", avg)
    break
```

```
Enter a number: 1
Enter another number: 2
Enter another number: 3
Enter another number: 4
Enter another number: 0
Thank you!
Your sum is 10 & avg is  2.5
```

Write a program to calculate the sum of the following series till the nth term 1/1! + 2/2! + 3/3! + ... + n/n!

```
n = int(input("Enter the nth term: "))
fact = 1
result = 0
for i in range(1,n+1):
  fact = fact * i
```

```
  result = result + i/fact
print(f"your calculated nth term is {result:.2f}")
```

```
Enter the nth term: 5
your calculated nth term is 2.71
```

Write a pythono program to find the sum of the series till the nth term: 1 + x**2/2 + x**3/3 + ... + x**n/n

```
n = int(input("Enter the nth term: "))
x = int(input("Enter the value of x: "))
result = 1
for i in range(2,n+1):
  result = result + (x**i/i)
print(f"the sum is {result:.2f}")
```

```
Enter the nth term: 3
Enter the value of x: 4
the sum is 30.33
```

Find the length of an string without using len() function.

```
str = input("Enter your string: ")
count = 0
for _ in str:
  count += 1
print("The length of your string is", count)
```

```
Enter your string: python
The length of your string is 6
```

Write a program to implement exception handling.

```
numerator = float(input("Enter value for numerator: "))
denominator = float(input("Enter value for denominator: "))
try:
  fraction = numerator/denominator
  print(f"your fraction is {fraction:.2f}")
except:
  print("Error: Denominator can't be zero!")
```

```
Enter value for numerator: 1
Enter value for denominator: 0
Error: Denominator can't be zero!
```

Write a Python program to read an entire text file.

```
file = open("read.txt", "r")
print("Reading file...")
print(file.read())
print()
```

Write a Python script to sort (ascending and descending) a dictionary by value

```
dict = {"PYTHON": 88, "JAVA": 78, "HTML": 99, "CSS": 45}
sorted_dict = {}
list = []
for key,value in dict.items():
  list.append((value,key))
for key, value in sorted(list, reverse = False):
  sorted_dict[value] = key
print("Sorted dict by values is", sorted_dict)
```

```
Sorted dict by values is {'CSS': 45, 'JAVA': 78, 'PYTHON': 88, 'HTML': 99}
```

Write a Python program to clone or copy a string list

```
def cloning(list):
  return list[::]
```

```
list = input("Enter your elements in a list: ").split()
clone = cloning(list)
print("your original list is", list)
print(f"your clone list is {clone}")
```

```
Enter your elements in a list: ram sham riya diya rohan soham
your original list is ['ram', 'sham', 'riya', 'diya', 'rohan', 'soham']
your clone list is ['ram', 'sham', 'riya', 'diya', 'rohan', 'soham']
```