15/09/2025

## A student scored marks in 5 subjects: [78, 85, 90, 66, 72]. Use a for loop to calculate the percentage (out of 150) for each subject.

**Program:**

```
sm=[78,85,90,66,72]
for i in sm:
    esp=(i/150*100)
    print(f"{i} the % is {esp:.2f}%")
```

**Output:**

78 the % is 52.00%

85 the % is 56.67%

90 the % is 60.00%

66 the % is 44.00%

72 the % is 48.00%

## write a program to check the given number is prime or not

**Program:**

```
num=int(input())
count=0
print("bc=",count)
for i in range(2,num,1):
    if(num%i==0):
        count= count+1
    else:
        count=count
print("ac=",count)
if(count==0):
    print("prime number")
else:
    print("not a prime number")
```

**Output:**

7

bc= 0

ac= 0

prime number

## Loop Statements:

- **Break-**Immediately terminates the loop(stops execution of the loop)
  ex:
  ```
  for i in range(1,11,1):
      if(i==5):
          break      # stops loop when i=5
      else:
          print(i)
  ```
  o/p:
  1
  2
  3
  4
- **Continue-**Skips the current iteration goes to the next loop iteration
  ex:
  ```
  for i in range(1,11,1):
      if (i%2==0):
          continue  #skips even numbers
      else:
          print(i)
  ```
  o/p:
  1
  3
  5
  7
  9
- **Pass-**Does nothing. It's a placeholder statement used when we don't want any action yet.
  ex:
  ```
  for i in range(4):
      if i==2:
          pass  # does nothing, just a placeholder
      else:
          print(i)
  ```
  o/p:
  0
  1
  3

## Write a program to check the given number is prime or not

```
num=int(input())
for i in range(2,num,1):
    if(num%i==0):
        print("not a prime number")
        break
else:
    print("prime number")
```

**Output:**

7

prime number

## While loop:

A while loop is a control flow statement that repeatedly executes a block of code as long as a given condition is true.

Syntax:

```
initialization
while(condition):
    statements
    incrementation / decrementation
```

ex:

```
i=1
while i<=5:
        print(i)
        i+=1
```

o/p:

1

2

3

4

5

ex:

```
name="tanu"
i=0
while(i<len(name)):
    print(f"position={i}:value={name[i]}")
    i=i+1
```

o/p:

```
position=0:value=t
position=1:value=a
position=2:value=n
position=3:value=u
```