DAY-12 09/18/2025

Nested While loop:

Syntax:

```
Initialization of outer loop
while condition(Outer while):
    initialisation of inner loop
    while condition(inner while):
        statements of inner loop
        increment/decrement of inner loop
    statements of outer loop
    increment/decrement of outer loop
```

1. Write a program to print multiplication table

Code:

```
row = 1
while(row <= 10):
    col = 1
    while(col <= 10):
        #row = 1
        #col = 1,2,...10
        print(row*col,end="\t")
        col =  col+1
```

```
    print()
    row = row+1
```

2. Pattern printing:

Write a program to print

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

Code:

```
row = 1
while(row <= 5):
    col = 1
    while(col <= row):
        print("*",end=" ")
        col = col+1
    print()
    row = row+1
```

If the row input has to be taken from the user

```
num = int(input("Enter a row number: "))
row = 1
while(row <= num):
    col = 1
```

```
    while(col <= row):
        print("*",end=" ")
        col = col+1
    print()
    row = row+1
```

3.program to print the pattern

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

Code

```
num = int(input("Enter a row number: "))
row = 1
for row in range(1,num+1,1):
    col = 1
    for col in range(row,num+1,col):
        print("*",end=" ")
    print()
```

using while loop:

```
num = int(input("Enter a row number: "))
row = num
while row > 0:
    col = 1
```

```
    while col <= row:
        print("*", end=" ")
        col = col + 1
    print()
    row = row – 1
```

4. write a program to print

1

2 2

3 3 3

4 4 4 4

5 5 5 5 5

Explanation:

i=1, j=1,2

i=2, j=1,2,3

i=3, j=1,2,3

i=4, j=1,2,3,4

i=5, j=1,2,3,4,5

code:

```
for i in range(1,6,1):
    for j in range(1,i+1):
        print(i,end="\t")
    print()
```

5. Write a program to print

output

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1 2 3 4 5

1 2 3 4 5

1 2 3 4 5

1 2 3 4 5

1 2 3 4 5

Code:

```
for i in range(1,6,1):
    for i in range(1,6,1):
        print(i,end=" ")
    print()
```