**SEPTEMBER 18,2025**

**Nested While loop:**

**Syntax:**

```
 Initialisation #outer loop  while
condition(Outer while):  initialisation
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 a multiplication

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

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()
```