```
In [17]:  i_loop_count=2
          j_loop_count=3
          for i in range (1, i_loop_count+1):
              print("loop for i =", i, "started")
              for j in range(1, j_loop_count+1):
                  print("|", "\t loop for j =", j)
              print()
```

```
loop for i = 1 started
|        loop for j = 1
|        loop for j = 2
|        loop for j = 3

loop for i = 2 started
|        loop for j = 1
|        loop for j = 2
|        loop for j = 3
```

```
In [22]: i_loop_count=2
         j_loop_count=3
         k_loop_count=4
         for i in range (1, i_loop_count+1):
             print("loop for i =", i, "started")
             for j in range(1, j_loop_count+1):
                 print("|", "\t loop for j =", j)
                 for k in range(1, k_loop_count+1):
                     print("|", "\t|", "\t\t""loop for k =", k)
             print()
```

```
loop for i = 1 started
|        loop for j = 1
|        |              loop for k = 1
|        |              loop for k = 2
|        |              loop for k = 3
|        |              loop for k = 4
|        loop for j = 2
|        |              loop for k = 1
|        |              loop for k = 2
|        |              loop for k = 3
|        |              loop for k = 4
|        loop for j = 3
|        |              loop for k = 1
|        |              loop for k = 2
|        |              loop for k = 3
|        |              loop for k = 4

loop for i = 2 started
|        loop for j = 1
|        |              loop for k = 1
|        |              loop for k = 2
|        |              loop for k = 3
|        |              loop for k = 4
|        loop for j = 2
|        |              loop for k = 1
|        |              loop for k = 2
|        |              loop for k = 3
|        |              loop for k = 4
|        loop for j = 3
|        |              loop for k = 1
```

```
|       |                    loop for k = 2
|       |                    loop for k = 3
|       |                    loop for k = 4
```

```
In [24]: i_loop_count=4
         j_loop_count=3
         k_loop_count=2
         l_loop_count=1
         for i in range (1, i_loop_count+1):
             print("loop for i =", i, "started")
             for j in range(1, j_loop_count+1):
                 print("|", "\t loop for j =", j)
                 for k in range(1, k_loop_count+1):
                     print("|", "\t|", "\t\t""loop for k =", k)
                     for l in range(1, l_loop_count+1):
                         print("|", "\t|", "\t\t\t\t""loop for l =", l)
             print()
```

```
loop for i = 1 started
|         loop for j = 1
|         |              loop for k = 1
|         |                      loop for l = 1
|         |              loop for k = 2
|         |                      loop for l = 1
|          loop for j = 2
|         |              loop for k = 1
|         |                      loop for l = 1
|         |              loop for k = 2
|         |                      loop for l = 1
|          loop for j = 3
|         |              loop for k = 1
|         |                      loop for l = 1
|         |              loop for k = 2
|         |                      loop for l = 1

loop for i = 2 started
|         loop for j = 1
|         |              loop for k = 1
|         |                      loop for l = 1
|         |              loop for k = 2
|         |                      loop for l = 1
|          loop for j = 2
|         |              loop for k = 1
|         |                      loop for l = 1
|         |              loop for k = 2
```

```
|        |                                    loop for l = 1
|        loop for j = 3
|        |               loop for k = 1
|        |                                   loop for l = 1
|        |               loop for k = 2
|        |                                   loop for l = 1

loop for i = 3 started
|        loop for j = 1
|        |               loop for k = 1
|        |                                   loop for l = 1
|        |               loop for k = 2
|        |                                   loop for l = 1
|        loop for j = 2
|        |               loop for k = 1
|        |                                   loop for l = 1
|        |               loop for k = 2
|        |                                   loop for l = 1
|        loop for j = 3
|        |               loop for k = 1
|        |                                   loop for l = 1
|        |               loop for k = 2
|        |                                   loop for l = 1

loop for i = 4 started
|        loop for j = 1
|        |               loop for k = 1
|        |                                   loop for l = 1
|        |               loop for k = 2
|        |                                   loop for l = 1
|        loop for j = 2
|        |               loop for k = 1
|        |                                   loop for l = 1
|        |               loop for k = 2
|        |                                   loop for l = 1
|        loop for j = 3
|        |               loop for k = 1
|        |                                   loop for l = 1
|        |               loop for k = 2
|        |                                   loop for l = 1
```

```
In [48]: iloop=int(input("i="))
         jloop=int(input("j="))
         for i in range(1, iloop+1):
             for j in range(1,jloop+1):
                 print(i, ",", j, end=" | ")
             print()
```

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

```
In [49]: count=int(input("count="))
         for i in range(1, count+1):
             for j in range(1, i+1):
                 print(i, end=" ")
             print()
```

```
count=5
1
2 2
3 3 3
4 4 4 4
5 5 5 5 5
```

```
In [77]: ilistolist=[[9, 5, 7], [0, 9, 5], [9, 7, 3], [9, 8, 1]]
         sum=0
         for x in ilistolist:
             print(x)
             for y in x:
                 print(y, end=", ")
                 sum+=y
             print()
             print(sum, end="")
             print()
         print()
         print("Sum of the elements =", sum)
```

```
[9, 5, 7]
9, 5, 7,
21
[0, 9, 5]
0, 9, 5,
35
[9, 7, 3]
9, 7, 3,
54
[9, 8, 1]
9, 8, 1,
72

Sum of the elements = 72
```

```
In [79]: ilistolist=[[9, 5, 7], [0, 9, 5], [9, 7, 3], [9, 8, 1]]
         sum=0
         for i in range(0, len(ilistolist)):
             for j in range(0, len(ilistolist[i])):
                 sum+=ilistolist[i][j]
         print("Sum of the elements =", sum)
```

```
Sum of the elements = 72
```

```
In [89]: ilist=[[9, 5, 7], [0, 9, 5], [9, 7, 3], [9, 8, 1]]
         sum=0
         print("ilist[0] =", ilist[0])
         print("ilist[0][1] =", ilist[0][1])
         print("ilist[3] =", ilist[3])
         print("ilist[3][2] =", ilist[3][2])
```

```
ilist[0] = [9, 5, 7]
ilist[0][1] = 5
ilist[3] = [9, 8, 1]
ilist[3][2] = 1
```

```
In [93]: ilist=[[9, 5, 7], [0, 9, 5], [9, 7, 3], [9, 8, 1]]
         sum=0
         print(ilist[0])
         index=len(ilist[2])-1
         print(ilist[2][len(ilist[2])-1])
```

```
[9, 5, 7]
3
```