

Ans 1 - Given a number n, print the following pattern without using any loop.

n, n-5, n-10, ..., 0, 5, 10, ..., n-5, n

There should be 0 or at most one occurrence of negative number in the series.


```
.vscode > G+ recursion8.cpp
1  #include<iostream>
2  using namespace std;
3  void decrement_function(int n,int decrement){
4      if(n<0) return;
5      cout<<n<<" ";
6      decrement_function(n-decrement,decrement);
7      cout<<n<<" ";
8  }
9  int main(){
10     decrement_function(20,5);
11     return 0;
12 }
```

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL
● PS D:\cppprograme> cd "d:\cppprograme\.vscode"
($?) { .\recursion8 }
○ 20 15 10 5 0 0 5 10 15 20
PS D:\cppprograme\.vscode>
```

Q2 - Find m-th summation of first n natural numbers where m-th summation of first n natural numbers is defined as following:

If $m > 1$: $SUM(n, m) = SUM(SUM(n, m - 1), 1)$

Else : $SUM(n, 1) =$ Sum of first n natural numbers.

```
.vscode >  recursion8.cpp
1  #include<iostream>
2  using namespace std;
3  int sum(int n, int m) {
4      if (m == 1) {
5          return (n * (n + 1)) / 2;
6      } else {
7          return sum(sum(n, m-1), 1);
8      }
9  }
10
11 int main(){
12     int result=sum(5,3);
13     cout<<result;
14     return 0;
15 }
```