5. (b) Test 5

Test Summary

- No. of Sections: 2
- No. of Questions: 3
- Total Duration: 45 min

Section 1 - Coding Proficiency

Section Summary

- No. of Questions: 2
- Duration: 30 min

Additional Instructions:

None

Q1. **Pattern**

You are given an integer N. print 2W lines in the following manner-If N = 4, then the pattern would be.

1
2*3
4*5*6
7*8*9*10
7*8*9*10
4*5*6
2*3
1

The input to the method triangle Pattern Print of class Triangle Pattern shall consist of an integer N (Assume 0<=N<=1000)
Test Case 1:
Input: 3
Expected Output:
1
2*3
4*5*6
4*5*6
2*3
1
Test Case 2:
Input: 5
Expected Return Value:
1
2*3
4*5*6
7*8*9*10
11*12*13*14*15
11*12*13*14*15
7*8*9*10
4*5*6
2*3
1

Input Format

Input contains the value n

Output Format

print the required format

Constraints

1<=n<= 55

Sample Input

```
4
```

Sample Output

```
1
2*3
4*5*6
7*8*9*10
```

Time Limit: - ms Memory Limit: - kb Code Size: - kb

Q2. **Pattern**

You are given an integer N and a start value start, print 2*N lines in the following manner
If N= 4 and start = 3, then the pattern would be:
3
44
555
6666
6666
555
44
3
The input to the method IncrementPatternPrint of class IncrementPattern shall consist of a positive integer start value start and an integer N (Assume 0 < N < 100).
Do not return anything from the method. Print the required pattern
Each line of the output shall consist of 'numerals' only. There should be no spaces.

Input Format

Input contains two integers n and s

Output Format

Print the required format

Constraints

1<=n,s<=100

Sample Input

```
3  5
```

Sample Output

```
5
66
777
777
```

Sample Input

```
2  5
```

Sample Output

```
5
66
66
5
```

Time Limit: - ms Memory Limit: - kb Code Size: - kb

Section 2 - Essay Writing

Section Summary

- No. of Questions: 1
- Duration: 15 min

Additional Instructions:

None

Q1. **ESSAY WRITING**

Write a response explaining the pros and cons of the arms race. Do the benefits outweigh the risks? Provide examples.

Directions

Global superpowers wish to extend their influence over the entire world. Nuclear weaponry is key to this expansion.

Keywords

Answer Key & Solution

Section 1 - Coding Proficiency

Q1

Test Case

Input

```
10
```

Output

```
1
2*3
4*5*6
7*8*9*10
```

Weightage - 10

Input

```
5
```

Output

```
1
2*3
4*5*6
7*8*9*10
```

Weightage - 5

Input

```
50
```

Output

```
1
2*3
4*5*6
```

Weightage - 10

Input

```
1
```

Output

```
1
1
```

Weightage - 5

Input

```
9
```

Output

```
1
2*3
4*5*6
7*8*9*10
```

Weightage - 10

Input

```
45
```

Output

```
1
2*3
4*5*6
```

Weightage - 10

Input

```
34
```

Output

```
1
2*3
4*5*6
```

Weightage - 10

Input

```
55
```

Output

```
1
2*3
4*5*6
```

Weightage - 10

Input

```
21
```

Output

```
1
2*3
4*5*6
```

Weightage - 10

Input

```
12
```

Output

```
1
2*3
4*5*6
7*8*9*10
```

Weightage - 10

Input

```
17
```

Output

```
1
2*3
4*5*6
```

Weightage - 10

Sample Input

```
4
```

Sample Output

```
1
2*3
4*5*6
7*8*9*10
```

Solution

Header

```
#include <stdio.h>
#include <string.h>
#include <math.h>
#include <stdlib.h>



void trianglePatternPrint(int n)
{
    int row, col,start=1,copy;
    for(row=1 ; row<=n  ; row++,printf("\n"))
{
    for(col = 1 ; col<row ; col++)
    {
          printf("%d*",start++);
```

Header

```
#include <stdio.h>
#include <string.h>
#include <math.h>
#include <stdlib.h>

class TrianglePattern
{
  public:
  void trianglePatternPrint(int);
};



void TrianglePattern::trianglePatternPrint(int n)
{
    int row, col,start=1,copy;
```

```
    }
    printf("%d",start++);
}
for(row=n ; row>0  ; row--)
{
    start= start-row;
    copy = start;
    for(col = 1 ; col<row ; col++)
    {
          printf("%d*",start++);
    }
    printf("%d",start);
    printf("\n");
    start=copy;
}
}
```

Footer

```
int main() {

    int n;
    scanf("%d",&n);
trianglePatternPrint(n);
    return 0;
}
```

```
    for(row=1 ; row<=n  ; row++,printf("\n"))
{
    for(col = 1 ; col<row ; col++)
    {
          printf("%d*",start++);
    }
    printf("%d",start++);
}
for(row=n ; row>0  ; row--)
{
    start= start-row;
    copy = start;
    for(col = 1 ; col<row ; col++)
    {
          printf("%d*",start++);
    }
    printf("%d",start);
    if( row >1)printf("\n");
    start=copy;
}
}
```

Footer

```
int main() {

    int n;
    scanf("%d",&n);
    TrianglePattern tp;
tp.trianglePatternPrint(n);
    return 0;
}
```

Q2

Test Case

Input

```
5  1
```

Output

```
1
22
333
4444
```

Weightage - 10

Input

```
10  2
```

Output

```
2
33
444
5555
```

Weightage - 10

Input

```
3  9
```

Output

```
9
1010
111111
111111
```

Weightage - 10

Input

```
5  5
```

Output

```
5
66
777
°°°°
```

Weightage - 10

Input

```
10  5
```

Output

```
5
66
777
°°°°
```

Weightage - 10

Input

```
6  5
```

Output

```
5
66
777
°°°°
```

Weightage - 10

Input

```
15  15
```

Output

```
15
1616
171717
18181818
```

Weightage - 10

Input

```
15   20
```

Output

```
20
2121
222222
23232323
```

Weightage - 10

Input

```
12  5
```

Output

```
5
66
777
°°°°
```

Weightage - 10

Input

```
12  12
```

Output

```
12
1313
141414
15151515
```

Weightage - 10

Sample Input

```
3  5
```

Sample Output

```
5
```

66

777

Sample Input

```
2  5
```

Sample Output

```
5
66
66
5
```

Solution

Header

```
#include <stdio.h>
#include <string.h>
#include <math.h>
#include <stdlib.h>
using namespace std;
 class IncrementPattern
{
    public:
    void IncrementPatternPrint(int n,int s);
};


void IncrementPattern::IncrementPatternPrint(int n , int s)
{
    int row,col,ctr;
    for(row=1;row<=n;row++,printf("\n"))
    {
        for(col=1;col<=row;col++)
            printf("%d",s);
            s++;
    }
    s--;
    for(row=n;row>=1;row--)
    {
        for(col=1;col<=row;col++)
            printf("%d",s);
            s--;
        printf("\n");
    }

}
```

Footer

```
int main()
{
    int n,s;
        scanf("%d %d",&n,&s);
        IncrementPattern ip;
        ip.IncrementPatternPrint(n,s);
    return 0;
}
```

Header

```
#include <stdio.h>
```

```
#include <string.h>
#include <math.h>
#include <stdlib.h>
using namespace std;
 class IncrementPattern
{
    public:
    void IncrementPatternPrint(int n,int s);
};



void IncrementPattern::IncrementPatternPrint(int n , int s)
{
    int row,col,ctr;
    for(row=1;row<=n;row++,printf("\n"))
    {
        for(col=1;col<=row;col++)
            printf("%d",s);
            s++;
    }
    s--;
    for(row=n;row>=1;row--)
    {
        for(col=1;col<=row;col++)
            printf("%d",s);
            s--;
        printf("\n");
    }

}
```

Footer

```
int main()
{
    int n,s;
        scanf("%d %d",&n,&s);
        IncrementPattern ip;
        ip.IncrementPatternPrint(n,s);
    return 0;
}
```

Section 2 - Essay Writing

Q1 Sample Essay

No Essay

Keywords

GLOBAL, SUPERPOWERS, WISH, EXTEND, INFLUENCE, ENTIRE, WORLD, NUCLEAR, WEAPONRY, KEY, EXPANSION,