

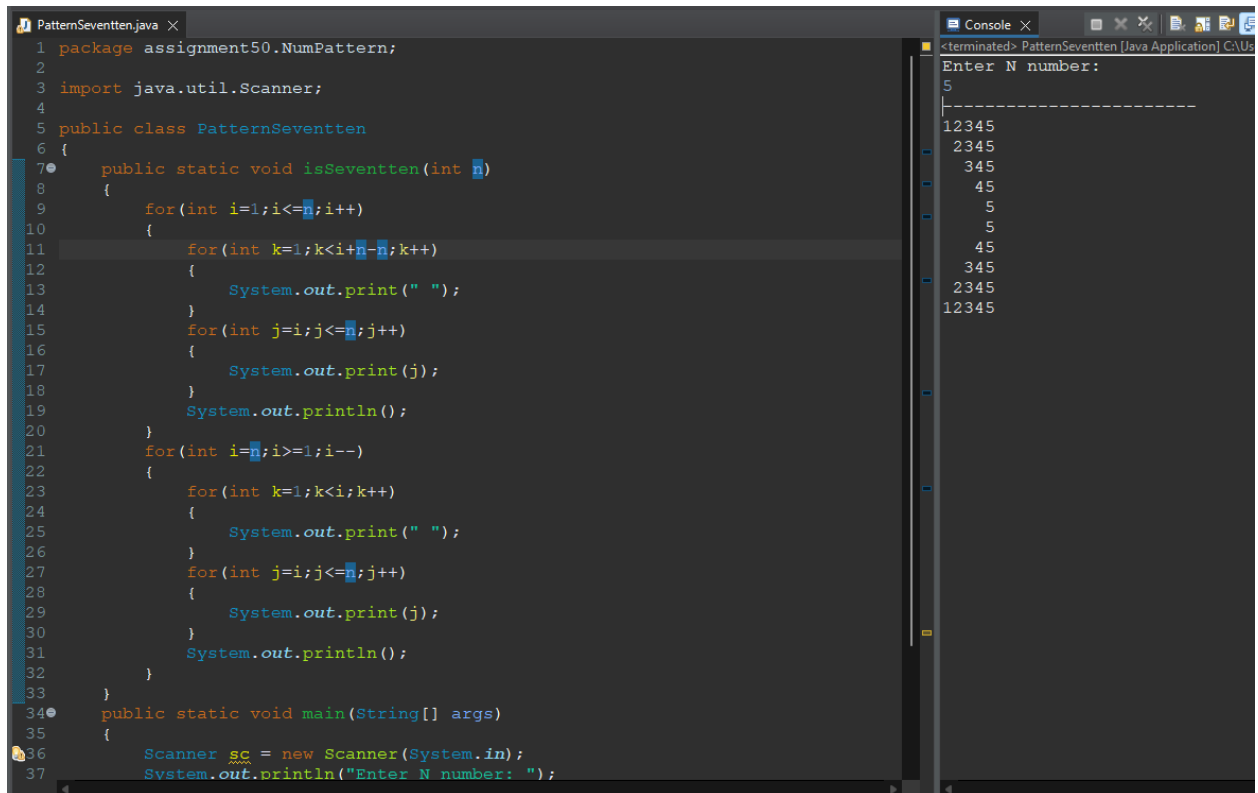
Assignment No:-50

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Batch: - Delta - DCA (Java) 2024 Date:-21/7/2024

Q.1

```
12345
2345
345
45
5
5
45
345
2345
12345
```



```
1 package assignment50.NumPattern;
2
3 import java.util.Scanner;
4
5 public class PatternSeventten
6 {
7     public static void isSeventten(int n)
8     {
9         for(int i=1;i<=n;i++)
10         {
11             for(int k=1;k<i+n-n;k++)
12             {
13                 System.out.print(" ");
14             }
15             for(int j=i;j<=n;j++)
16             {
17                 System.out.print(j);
18             }
19             System.out.println();
20         }
21         for(int i=n;i>=1;i--)
22         {
23             for(int k=1;k<i;k++)
24             {
25                 System.out.print(" ");
26             }
27             for(int j=i;j<=n;j++)
28             {
29                 System.out.print(j);
30             }
31             System.out.println();
32         }
33     }
34     public static void main(String[] args)
35     {
36         Scanner sc = new Scanner(System.in);
37         System.out.println("Enter N number: ");
```

Console Output:

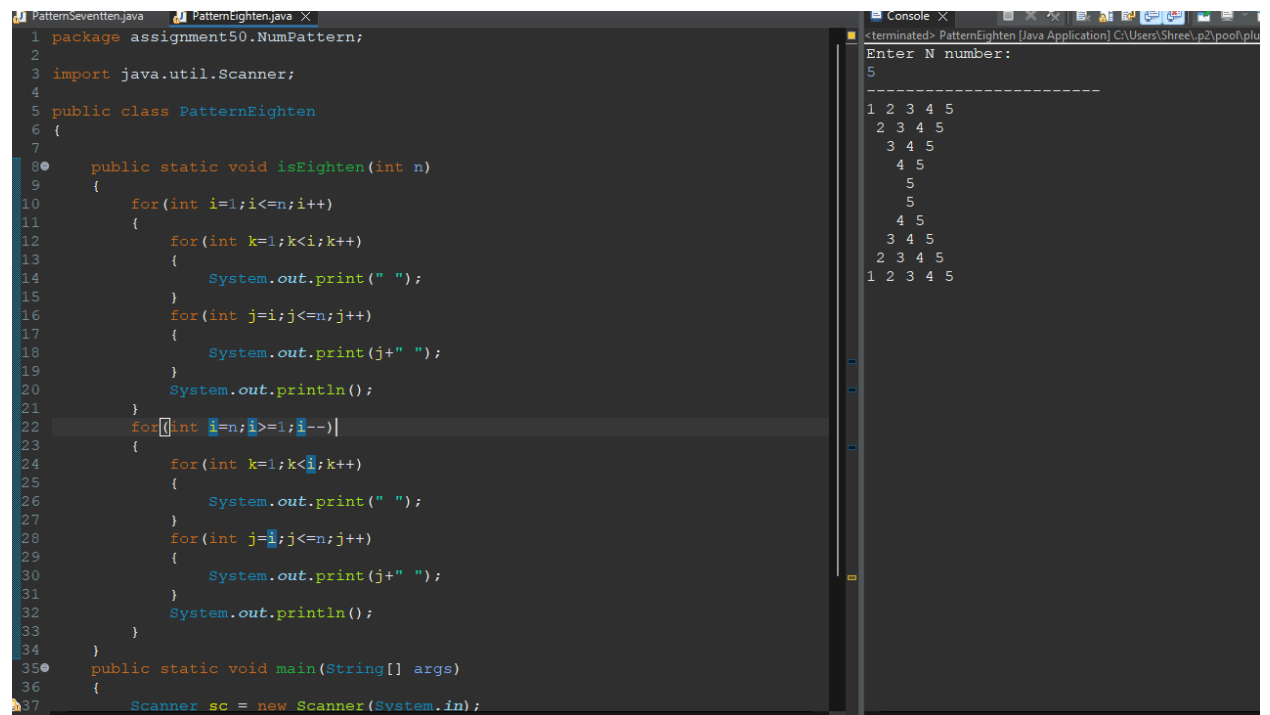
```
<terminated> PatternSeventten [Java Application] C:\Us
Enter N number:
5
-----
12345
2345
345
45
5
5
45
345
2345
12345
```

```
PatternSeventten.java X
8      {
9          for(int i=1;i<=n;i++)
10         {
11             for(int k=1;k<i+n-k;k++)
12             {
13                 System.out.print(" ");
14             }
15             for(int j=i;j<=n;j++)
16             {
17                 System.out.print(j);
18             }
19             System.out.println();
20         }
21         for(int i=n;i>=1;i--)
22         {
23             for(int k=1;k<i;k++)
24             {
25                 System.out.print(" ");
26             }
27             for(int j=i;j<=n;j++)
28             {
29                 System.out.print(j);
30             }
31             System.out.println();
32         }
33     }
34 public static void main(String[] args)
35     {
36         Scanner sc = new Scanner(System.in);
37         System.out.println("Enter N number: ");
38         int n = sc.nextInt();
39         System.out.println("-----");
40         PatternSeventten.isSeventten(n);
41     }
42 }
43 }
44 }
```

```
Console X
<terminated> PatternSeventten [Java Application] C:\Users\Shree\p2\
Enter N number:
5
-----
12345
 2345
   345
    45
     5
     5
    45
   345
  2345
12345
```

Q.2

```
1 2 3 4 5
 2 3 4 5
   3 4 5
    4 5
     5
    5
   4 5
  3 4 5
 2 3 4 5
1 2 3 4 5
```



The screenshot shows a Java IDE with two tabs: 'PatternSeventeen.java' and 'PatternEighteen.java'. The 'PatternEighteen.java' tab is active, displaying the following code:

```
1 package assignment50.NumPattern;
2
3 import java.util.Scanner;
4
5 public class PatternEighteen
6 {
7
8     public static void isEighteen(int n)
9     {
10         for(int i=1;i<=n;i++)
11         {
12             for(int k=1;k<i;k++)
13             {
14                 System.out.print(" ");
15             }
16             for(int j=i;j<=n;j++)
17             {
18                 System.out.print(j+" ");
19             }
20             System.out.println();
21         }
22         for(int i=n;i>=1;i--)
23         {
24             for(int k=1;k<i;k++)
25             {
26                 System.out.print(" ");
27             }
28             for(int j=i;j<=n;j++)
29             {
30                 System.out.print(j+" ");
31             }
32             System.out.println();
33         }
34     }
35     public static void main(String[] args)
36     {
37         Scanner sc = new Scanner(System.in);
```

The console window on the right shows the execution of the program. It prompts the user to 'Enter N number:' and the user enters '5'. The output of the program is the pattern shown in the first block, with a dashed line separating the two halves of the pattern.

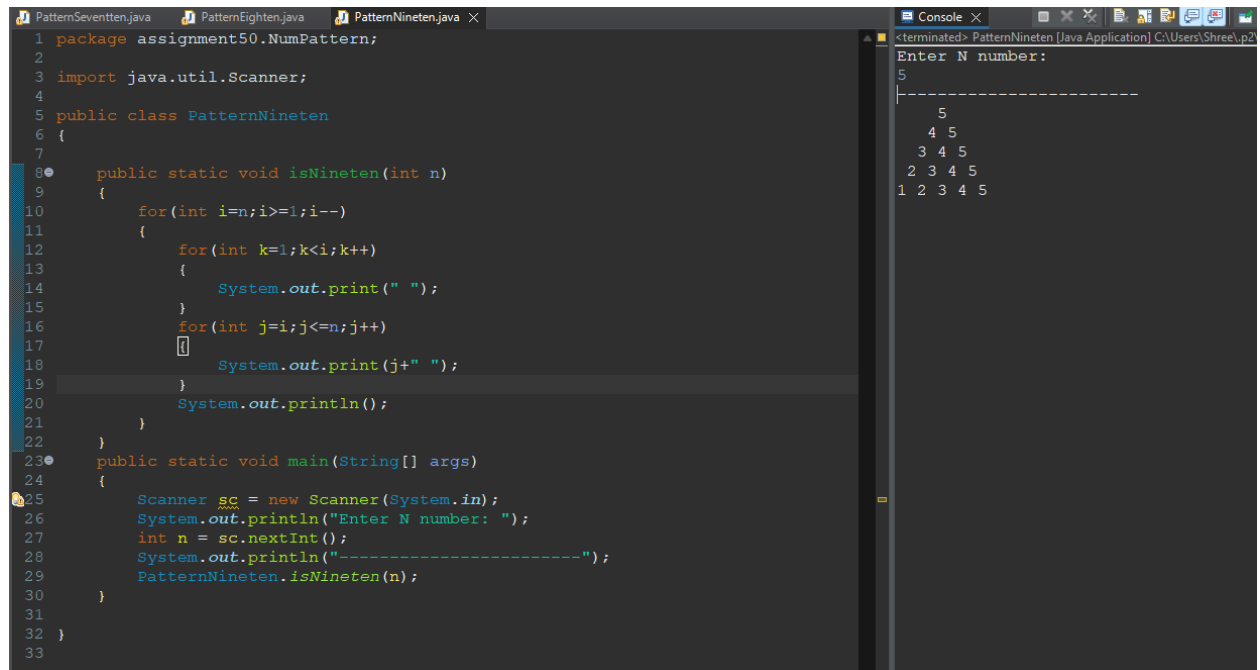
```
<terminated> PatternEighteen [Java Application] C:\Users\Shree\p2\pool\plu
Enter N number:
5
-----
1 2 3 4 5
 2 3 4 5
   3 4 5
    4 5
     5
    5
   4 5
  3 4 5
 2 3 4 5
1 2 3 4 5
```

```
PatternSeventeen.java  PatternEighteen.java  Console
9      {
10     for(int i=1;i<=n;i++)
11     {
12         for(int k=1;k<i;k++)
13         {
14             System.out.print(" ");
15         }
16         for(int j=i;j<=n;j++)
17         {
18             System.out.print(j+" ");
19         }
20         System.out.println();
21     }
22     for(int i=n;i>=1;i--)
23     {
24         for(int k=1;k<i;k++)
25         {
26             System.out.print(" ");
27         }
28         for(int j=i;j<=n;j++)
29         {
30             System.out.print(j+" ");
31         }
32         System.out.println();
33     }
34 }
35 public static void main(String[] args)
36 {
37     Scanner sc = new Scanner(System.in);
38     System.out.println("Enter N number: ");
39     int n = sc.nextInt();
40     System.out.println("-----");
41     PatternEighteen.isEighteen(n);
42 }
43
44 }
45
```

```
<terminated> PatternEighteen [Java Application] C:\Users\SI
Enter N number:
5
-----
1 2 3 4 5
2 3 4 5
3 4 5
4 5
5
5
4 5
3 4 5
2 3 4 5
1 2 3 4 5
```

Q.3

```
5
4 5
3 4 5
2 3 4 5
1 2 3 4 5
```



The screenshot shows an IDE with three tabs: PatternSeventeen.java, PatternEighteen.java, and PatternNineteen.java. The active tab is PatternNineteen.java, which contains the following Java code:

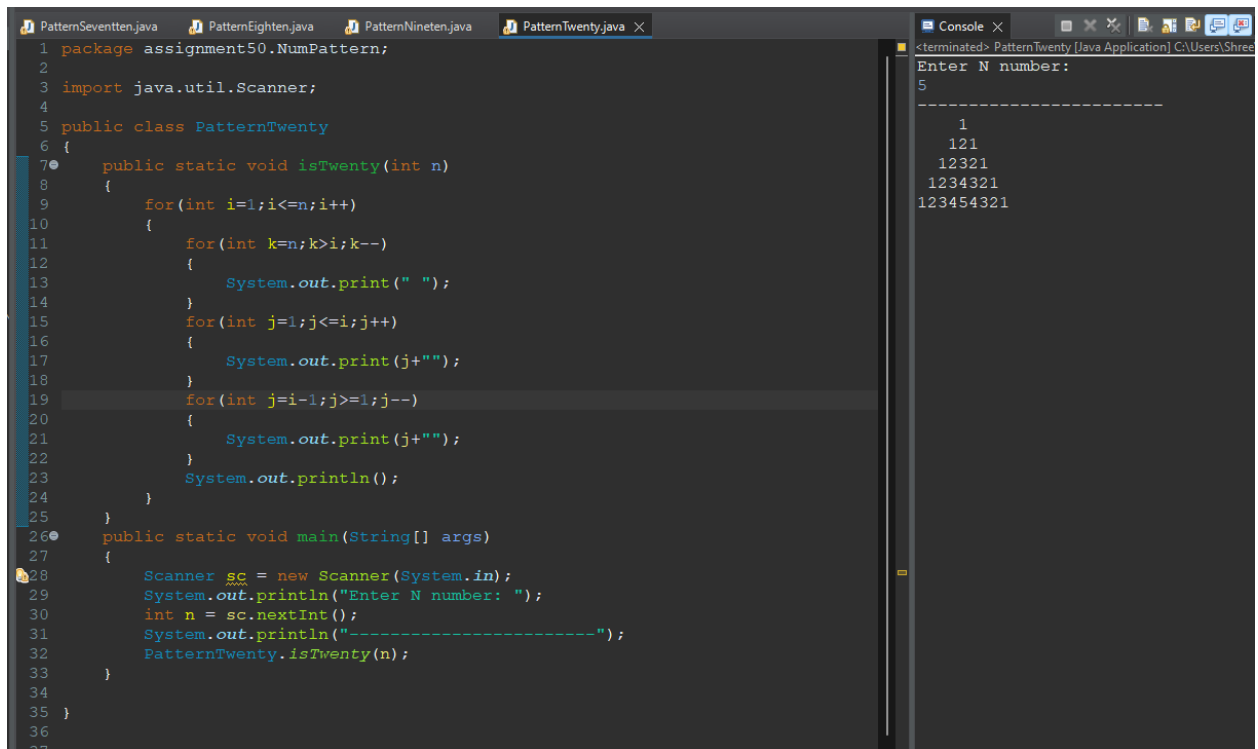
```
1 package assignment50.NumPattern;
2
3 import java.util.Scanner;
4
5 public class PatternNineteen
6 {
7
8     public static void isNineteen(int n)
9     {
10         for(int i=n; i>=1; i--)
11         {
12             for(int k=1; k<=i; k++)
13             {
14                 System.out.print(" ");
15             }
16             for(int j=i; j<=n; j++)
17             {
18                 System.out.print(j+" ");
19             }
20             System.out.println();
21         }
22     }
23
24     public static void main(String[] args)
25     {
26         Scanner sc = new Scanner(System.in);
27         System.out.println("Enter N number: ");
28         int n = sc.nextInt();
29         System.out.println("-----");
30         PatternNineteen.isNineteen(n);
31     }
32 }
33
```

The console window on the right shows the output of the program:

```
<terminated> PatternNineteen [Java Application] C:\Users\Shree\p2
Enter N number:
5
-----
5
4 5
3 4 5
2 3 4 5
1 2 3 4 5
```

Q.4

```
1
121
12321
1234321
123454321
```



The screenshot shows a Java IDE with several tabs open: PatternSeventeen.java, PatternEighteen.java, PatternNineteen.java, and PatternTwenty.java. The PatternTwenty.java file is active, displaying the following code:

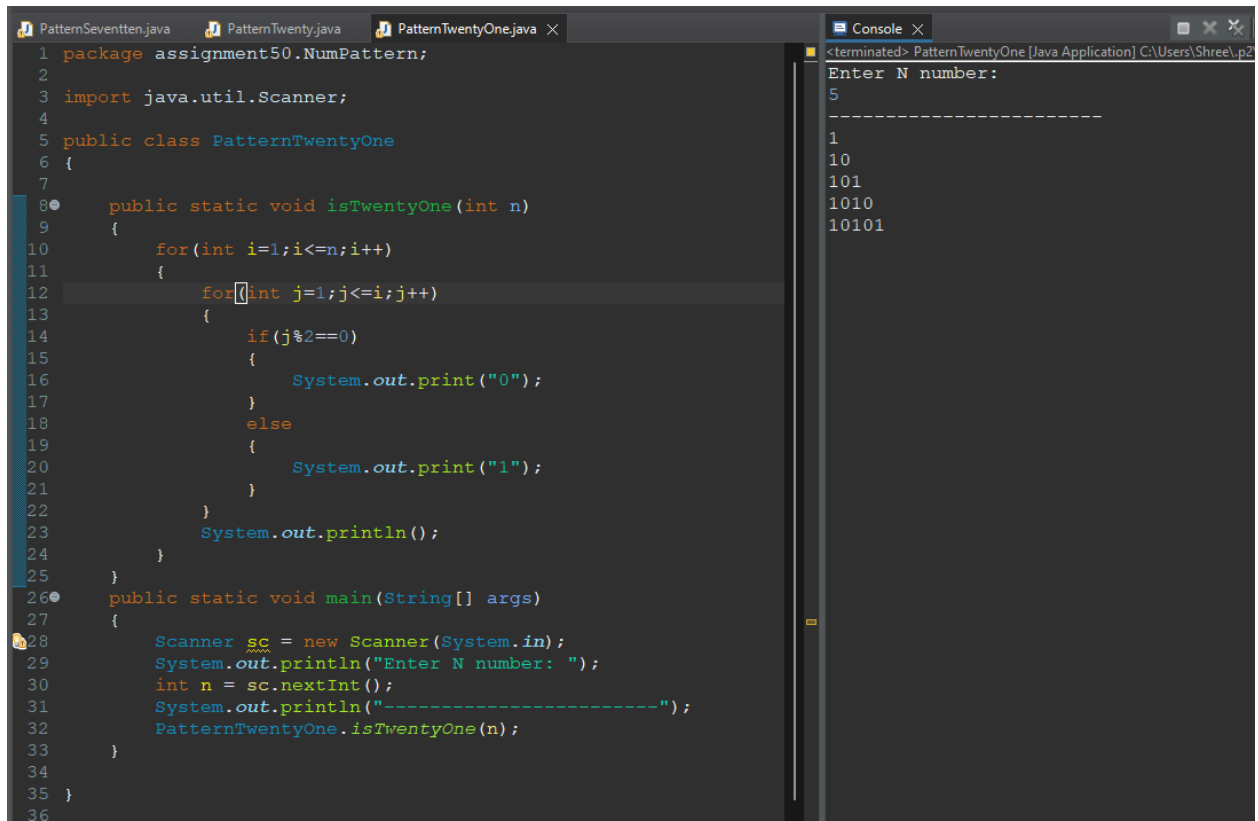
```
1 package assignment50.NumPattern;
2
3 import java.util.Scanner;
4
5 public class PatternTwenty
6 {
7     public static void isTwenty(int n)
8     {
9         for(int i=1;i<=n;i++)
10         {
11             for(int k=n;k>i;k--)
12             {
13                 System.out.print(" ");
14             }
15             for(int j=1;j<=i;j++)
16             {
17                 System.out.print(j+"");
18             }
19             for(int j=i-1;j>=1;j--)
20             {
21                 System.out.print(j+"");
22             }
23             System.out.println();
24         }
25     }
26     public static void main(String[] args)
27     {
28         Scanner sc = new Scanner(System.in);
29         System.out.println("Enter N number: ");
30         int n = sc.nextInt();
31         System.out.println("-----");
32         PatternTwenty.isTwenty(n);
33     }
34 }
35
36
37
```

The console window on the right shows the execution of the program. It prompts the user to "Enter N number:" and receives the input "5". The output of the program is a pattern of numbers:

```
Enter N number:
5
-----
1
121
12321
1234321
123454321
```

Q.5

```
1
10
101
1010
10101
```



The screenshot shows a Java IDE with three tabs: PatternSeventeen.java, PatternTwenty.java, and PatternTwentyOne.java. The PatternTwentyOne.java tab is active, displaying the following code:

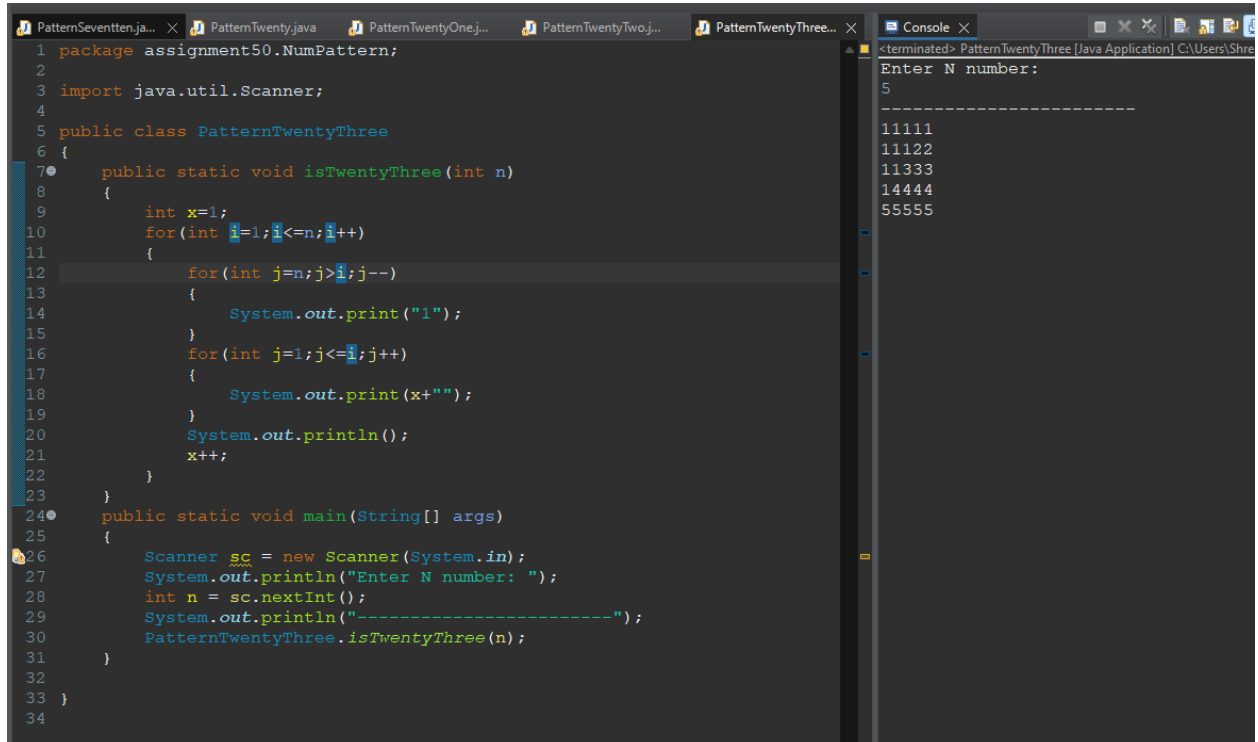
```
1 package assignment50.NumPattern;
2
3 import java.util.Scanner;
4
5 public class PatternTwentyOne
6 {
7
8     public static void isTwentyOne(int n)
9     {
10         for(int i=1;i<=n;i++)
11         {
12             for(int j=1;j<=i;j++)
13             {
14                 if(j%2==0)
15                 {
16                     System.out.print("0");
17                 }
18                 else
19                 {
20                     System.out.print("1");
21                 }
22             }
23             System.out.println();
24         }
25     }
26     public static void main(String[] args)
27     {
28         Scanner sc = new Scanner(System.in);
29         System.out.println("Enter N number: ");
30         int n = sc.nextInt();
31         System.out.println("-----");
32         PatternTwentyOne.isTwentyOne(n);
33     }
34 }
35 }
36 }
```

The console window on the right shows the execution of the program. It prompts the user to "Enter N number:" and receives the input "5". It then prints the pattern:

```
<terminated> PatternTwentyOne [Java Application] C:\Users\Shree\p2
Enter N number:
5
-----
1
10
101
1010
10101
```

Q.6

```
11111
11122
11333
14444
55555
```



The screenshot shows a Java IDE with several tabs open. The active tab is `PatternTwentyThree.java`, which contains the following code:

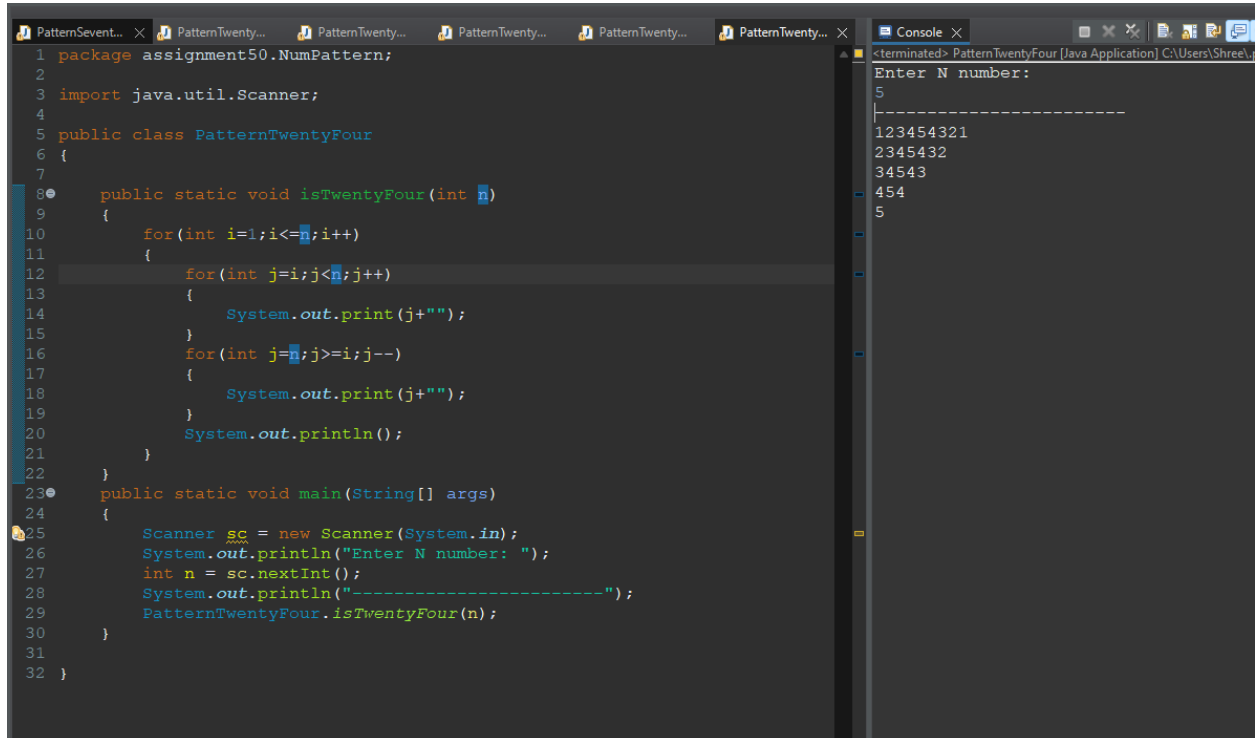
```
1 package assignment50.NumPattern;
2
3 import java.util.Scanner;
4
5 public class PatternTwentyThree
6 {
7     public static void isTwentyThree(int n)
8     {
9         int x=1;
10        for(int i=1; i<=n; i++)
11        {
12            for(int j=n; j>=i; j--)
13            {
14                System.out.print("1");
15            }
16            for(int j=1; j<=i; j++)
17            {
18                System.out.print(x+"");
19            }
20            System.out.println();
21            x++;
22        }
23    }
24    public static void main(String[] args)
25    {
26        Scanner sc = new Scanner(System.in);
27        System.out.println("Enter N number: ");
28        int n = sc.nextInt();
29        System.out.println("-----");
30        PatternTwentyThree.isTwentyThree(n);
31    }
32 }
33
34
```

The console window on the right shows the execution of the program:

```
<terminated> PatternTwentyThree [Java Application] C:\Users\Shre
Enter N number:
5
-----
11111
11122
11333
14444
55555
```


Q.7

```
123454321
2345432
34543
454
5
```



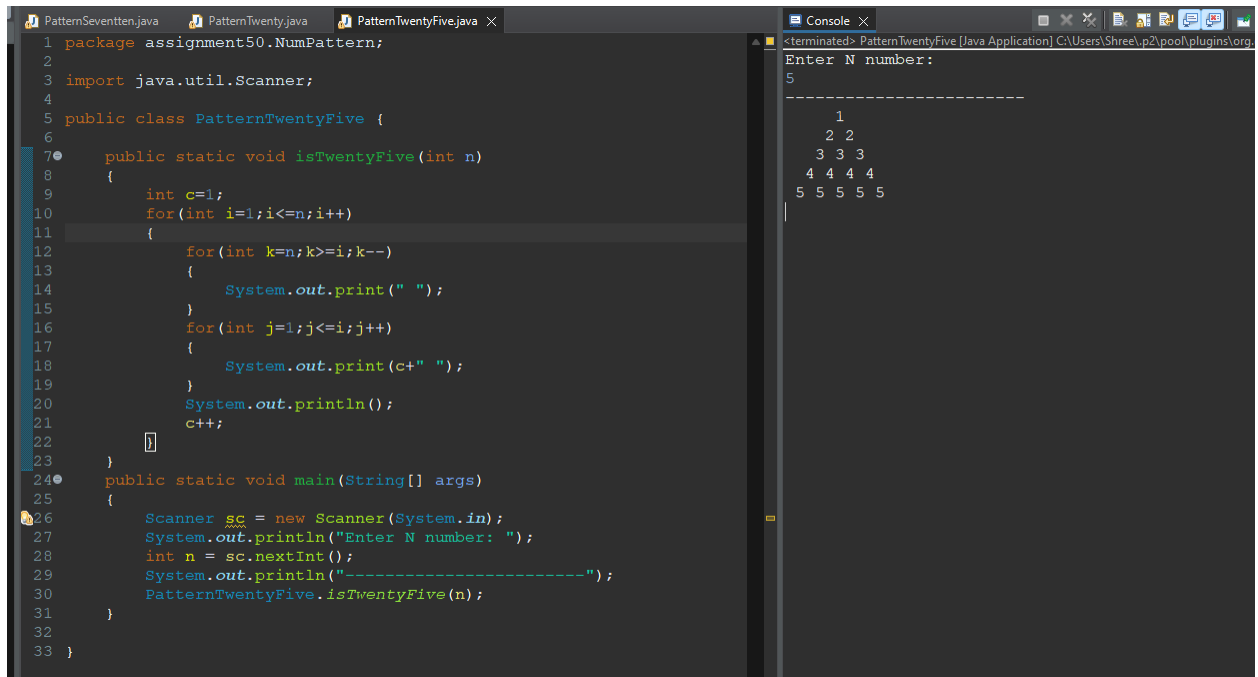
```
1 package assignment50.NumPattern;
2
3 import java.util.Scanner;
4
5 public class PatternTwentyFour
6 {
7
8     public static void isTwentyFour(int n)
9     {
10         for(int i=1;i<=n;i++)
11         {
12             for(int j=i;j<=n;j++)
13             {
14                 System.out.print(j+"");
15             }
16             for(int j=n;j>=i;j--)
17             {
18                 System.out.print(j+"");
19             }
20             System.out.println();
21         }
22     }
23     public static void main(String[] args)
24     {
25         Scanner sc = new Scanner(System.in);
26         System.out.println("Enter N number: ");
27         int n = sc.nextInt();
28         System.out.println("-----");
29         PatternTwentyFour.isTwentyFour(n);
30     }
31 }
32 }
```

Console Output:

```
<terminated> PatternTwentyFour [Java Application] C:\Users\Shree\...
Enter N number:
5
-----
123454321
2345432
34543
454
5
```

Q.8

```
1
2 2
3 3 3
4 4 4 4
5 5 5 5 5
```



The screenshot shows an IDE with two tabs: 'PatternTwentyFive.java' and 'Console'. The code in the editor is as follows:

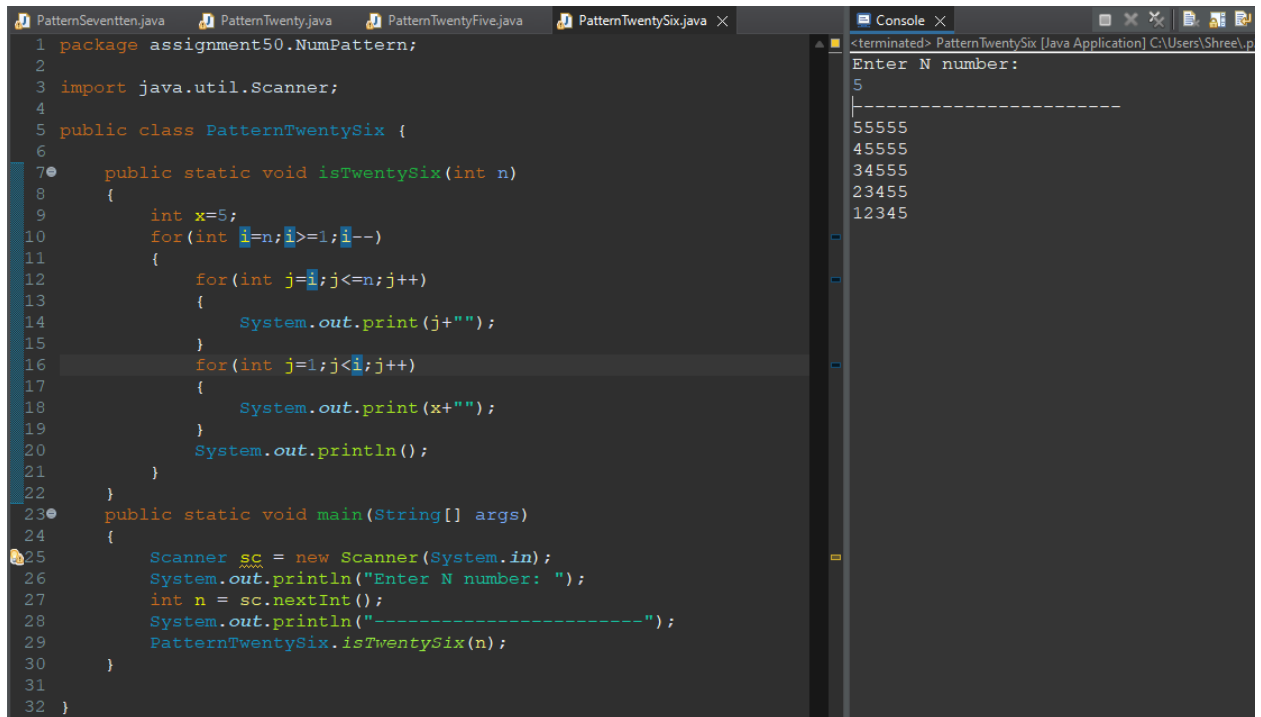
```
1 package assignment50.NumPattern;
2
3 import java.util.Scanner;
4
5 public class PatternTwentyFive {
6
7     public static void isTwentyFive(int n)
8     {
9         int c=1;
10        for(int i=1;i<=n;i++)
11        {
12            for(int k=n;k>=i;k--)
13            {
14                System.out.print(" ");
15            }
16            for(int j=1;j<=i;j++)
17            {
18                System.out.print(c+" ");
19            }
20            System.out.println();
21            c++;
22        }
23    }
24    public static void main(String[] args)
25    {
26        Scanner sc = new Scanner(System.in);
27        System.out.println("Enter N number: ");
28        int n = sc.nextInt();
29        System.out.println("-----");
30        PatternTwentyFive.isTwentyFive(n);
31    }
32 }
33 }
```

The console output shows the program execution for N=5:

```
<terminated> PatternTwentyFive [Java Application] C:\Users\Shree\p2\poo\plugins\org...
Enter N number:
5
-----
1
2 2
3 3 3
4 4 4 4
5 5 5 5 5
```

Q.9

```
55555
45555
34555
23455
12345
```



The screenshot shows an IDE with a Java file named `PatternTwentySix.java` and a console window. The code defines a method `isTwentySix` that prints a pattern of numbers for a given `n`. The console shows the output for `n=5`, which matches the pattern shown in the first image.

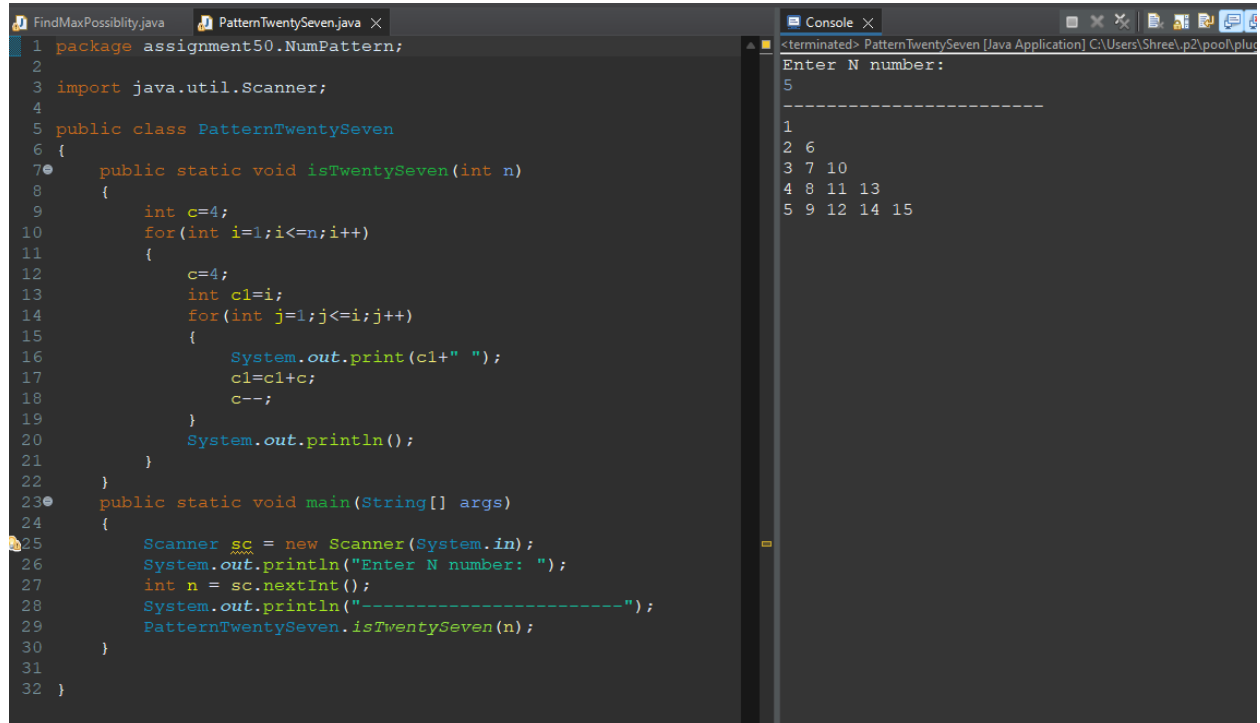
```
1 package assignment50.NumPattern;
2
3 import java.util.Scanner;
4
5 public class PatternTwentySix {
6
7     public static void isTwentySix(int n)
8     {
9         int x=5;
10        for(int i=n; i>=1; i--)
11        {
12            for(int j=i; j<=n; j++)
13            {
14                System.out.print(j+"");
15            }
16            for(int j=1; j<i; j++)
17            {
18                System.out.print(x+"");
19            }
20            System.out.println();
21        }
22    }
23
24    public static void main(String[] args)
25    {
26        Scanner sc = new Scanner(System.in);
27        System.out.println("Enter N number: ");
28        int n = sc.nextInt();
29        System.out.println("-----");
30        PatternTwentySix.isTwentySix(n);
31    }
32 }
```

Console Output:

```
<terminated> PatternTwentySix [Java Application] C:\Users\Shree\p
Enter N number:
5
-----
55555
45555
34555
23455
12345
```

Q.10

```
1
2 6
3 7 10
4 8 11 13
5 9 12 14 15
```



The screenshot shows a Java IDE with two tabs: 'FindMaxPossibility.java' and 'PatternTwentySeven.java'. The 'PatternTwentySeven.java' tab is active, displaying the following code:

```
1 package assignment50.NumPattern;
2
3 import java.util.Scanner;
4
5 public class PatternTwentySeven
6 {
7     public static void isTwentySeven(int n)
8     {
9         int c=4;
10        for(int i=1;i<=n;i++)
11        {
12            c=4;
13            int cl=i;
14            for(int j=1;j<=i;j++)
15            {
16                System.out.print(cl+" ");
17                cl=cl+c;
18                c--;
19            }
20            System.out.println();
21        }
22    }
23    public static void main(String[] args)
24    {
25        Scanner sc = new Scanner(System.in);
26        System.out.println("Enter N number: ");
27        int n = sc.nextInt();
28        System.out.println("-----");
29        PatternTwentySeven.isTwentySeven(n);
30    }
31 }
32 }
```

The console window on the right shows the output of the program:

```
<terminated> PatternTwentySeven [Java Application] C:\Users\Shree\p2\pool\plus
Enter N number:
5
-----
1
2 6
3 7 10
4 8 11 13
5 9 12 14 15
```

Q.11

```
1
2 4
3 6 9
4 8 12 16
5 10 15 20 25
6 12 18 24
7 14 21
8 16
9
```

```
FindMaxPossibility.java PatternTwentySeven.java PatternTwentyEight.java X
1 package assignment50.NumPattern;
2
3 import java.util.Scanner;
4
5 public class PatternTwentyEight
6 {
7     public static void isTwentyEight(int n)
8     {
9         int c=1;
10        for(int i=1;i<=n;i++)
11        {
12            int cl=i;
13            for(int j=1;j<=i;j++)
14            {
15                System.out.print((i*j)+" ");
16            }
17            System.out.println();
18        }
19        c=6;
20        for(int i=1;i<=n;i++)
21        {
22            int cl=1;
23            for(int j=n;j>i;j--)
24            {
25                System.out.print((cl*c)+" ");
26                cl++;
27            }
28            c++;
29            System.out.println();
30        }
31    }
32    public static void main(String[] args)
33    {
34        Scanner sc = new Scanner(System.in);
35        System.out.println("Enter N number: ");
36        int n = sc.nextInt();
37        System.out.println("-----");
38    }
39 }
```

Console X

<terminated> PatternTwentyEight (Java Application)

Enter N number:
5

1
2 4
3 6 9
4 8 12 16
5 10 15 20 25
6 12 18 24
7 14 21
8 16
9

```
FindMaxPossibility.java PatternTwentySeven.java PatternTwentyEight.java X
5 public class PatternTwentyEight
6 {
7     public static void isTwentyEight(int n)
8     {
9         int c=1;
10        for(int i=1;i<=n;i++)
11        {
12            int cl=i;
13            for(int j=1;j<=i;j++)
14            {
15                System.out.print((i*j)+" ");
16            }
17            System.out.println();
18        }
19        c=6;
20        for(int i=1;i<=n;i++)
21        {
22            int cl=1;
23            for(int j=n;j>i;j--)
24            {
25                System.out.print((cl*c)+" ");
26                cl++;
27            }
28            c++;
29            System.out.println();
30        }
31    }
32    public static void main(String[] args)
33    {
34        Scanner sc = new Scanner(System.in);
35        System.out.println("Enter N number: ");
36        int n = sc.nextInt();
37        System.out.println("-----");
38        PatternTwentyEight.isTwentyEight(n);
39    }
40 }
41 }
```

Console X

<terminated> PatternTwentyEight (Java Application)

Enter N number:
5

1
2 4
3 6 9
4 8 12 16
5 10 15 20 25
6 12 18 24
7 14 21
8 16
9

Q.12

Q.13

```
InnerDimond.java  PatternTwentyNine.java  PatternThirty.java  X
1 package assignment50.NumPattern;
2
3 import java.util.Scanner;
4
5 public class PatternThirty
6 {
7     public static void isThirty(int n)
8     {
9         int num = 1,n1=10,n2=20,n3=21,n4=11;
10        for(int i=1;i<=n;i++)
11        {
12            for(int j=1;j<=n;j++)
13            {
14                if(j==1)
15                {
16                    System.out.print(num+++" ");
17                }
18                else if(j==2)
19                {
20                    System.out.print(n1--+" ");
21                }
22                else if(j==3)
23                {
24                    System.out.print(n4+++" ");
25                }
26                else if(j==4)
27                {
28                    System.out.print(n2--+" ");
29                }
30                else if(j==5)
31                {
32                    System.out.print(n3+++" ");
33                }
34                else
35                {
36                    System.out.print(" ");
37                }
38            }
39            System.out.println();
40        }
41    }
42
43    public static void main(String[] args)
44    {
45        Scanner sc = new Scanner(System.in);
46        System.out.println("Enter N number: ");
47        int n = sc.nextInt();
48        System.out.println("-----");
49        PatternThirty.isThirty(n);
50    }
51
52 }
```

```
<terminated> PatternThirty [Java Application] C:\Users\Shree\p2\pool\plu
Enter N number:
5
-----
1 10 11 20 21
2 9 12 19 22
3 8 13 18 23
4 7 14 17 24
5 6 15 16 25
```

```
InnerDimond.java  PatternTwentyNine.java  PatternThirty.java  X
16        System.out.print(num+++" ");
17    }
18    else if(j==2)
19    {
20        System.out.print(n1--+" ");
21    }
22    else if(j==3)
23    {
24        System.out.print(n4+++" ");
25    }
26    else if(j==4)
27    {
28        System.out.print(n2--+" ");
29    }
30    else if(j==5)
31    {
32        System.out.print(n3+++" ");
33    }
34    else
35    {
36        System.out.print(" ");
37    }
38    }
39    System.out.println();
40    }
41    }
42
43    public static void main(String[] args)
44    {
45        Scanner sc = new Scanner(System.in);
46        System.out.println("Enter N number: ");
47        int n = sc.nextInt();
48        System.out.println("-----");
49        PatternThirty.isThirty(n);
50    }
51
52 }
```

```
<terminated> PatternThirty [Java Application] C:\Users\Shree\p2\pool\plugins\
Enter N number:
5
-----
1 10 11 20 21
2 9 12 19 22
3 8 13 18 23
4 7 14 17 24
5 6 15 16 25
```

Q.14

```

1 package assignment50.NumPattern;
2
3 import java.util.Scanner;
4
5 public class PatternThirtyTwo
6 {
7     public static void isThirtyTwo(int n)
8     {
9         int a = 0, b = 1;
10        for(int i=1; i<=n; i++)
11        {
12            for(int j=1; j<=i; j++)
13            {
14                System.out.print(j+" ");
15            }
16            int c=a+b;
17            a=b;
18            b=c;
19            System.out.print(c);
20            System.out.println();
21        }
22    }
23    public static void main(String[] args)
24    {
25        Scanner sc = new Scanner(System.in);
26        System.out.println("Enter N number: ");
27        int n = sc.nextInt();
28        System.out.println("-----");
29        PatternThirtyTwo.isThirtyTwo(n);
30    }
31 }
32 }

```

Console Output:

```

Enter N number:
5
-----
1
1 2
1 2 3
1 2 3 5
1 2 3 4 8

```

Q.15

```

1 package assignment50.NumPattern;
2
3 import java.util.Scanner;
4
5 public class PatternThirtyThree
6 {
7     public static void isThirtyThree(int n)
8     {
9         int b=4;
10        for(int i=n; i>=1; i--)
11        {
12            for(int j=i; j<=n; j++)
13            {
14                System.out.print(j+" ");
15            }
16            b=4;
17            for(int j=i; j<=n; j++)
18            {
19                System.out.print(b--+" ");
20            }
21            System.out.println();
22        }
23    }
24    b=4;
25    for(int i=2; i<=n; i++)
26    {
27        for(int j=i; j<=n; j++)
28        {
29            System.out.print(j+" ");
30        }
31        b=4;
32        for(int j=i; j<=n; j++)
33        {
34            System.out.print(b--+" ");
35        }
36        System.out.println();
37    }
38 }

```

Console Output:

```

Enter N number:
5
-----
5
4 5 4
3 4 5 4 3
2 3 4 5 4 3 2
1 2 3 4 5 4 3 2 1
2 3 4 5 4 3 2
3 4 5 4 3
4 5 4
5

```

```

12     for(int j=1;j<=n;j++)
13     {
14         System.out.print(j+" ");
15     }
16     b=4;
17     for(int j=i;j<n;j++)
18     {
19         System.out.print(b--+" ");
20     }
21     System.out.println();
22 }
23
24 b=4;
25 for(int i=2;i<=n;i++)
26 {
27     for(int j=i;j<=n;j++)
28     {
29         System.out.print(j+" ");
30     }
31     b=4;
32     for(int j=i;j<n;j++)
33     {
34         System.out.print(b--+" ");
35     }
36     System.out.println();
37 }
38
39 public static void main(String[] args)
40 {
41     Scanner sc = new Scanner(System.in);
42     System.out.println("Enter N number: ");
43     int n = sc.nextInt();
44     System.out.println("-----");
45     PatternThirtyThree.isThirtyThree(n);
46 }
47
48 }

```

Console Output:

```

<terminated> PatternThirtyThree (Java Application) C
Enter N number:
5
-----
4 5 4
3 4 5 4 3
2 3 4 5 4 3 2
1 2 3 4 5 4 3 2 1
2 3 4 5 4 3 2
3 4 5 4 3
4 5 4
5
|

```

Q.16

```

1 package assignment50.NumPattern;
2
3 import java.util.Scanner;
4
5 public class PatternThirtyFive
6 {
7     public static void isThirtyFive(int n)
8     {
9         int b=1;
10        for(int i=1;i<=n;i++)
11        {
12            for(int j=1;j<=n;j++)
13            {
14                if(i==j)
15                {
16                    System.out.print(b+"");
17                }
18                else
19                {
20                    System.out.print("0");
21                }
22            }
23            b++;
24            System.out.println();
25        }
26    }
27    public static void main(String[] args)
28    {
29        Scanner sc = new Scanner(System.in);
30        System.out.println("Enter N number: ");
31        int n = sc.nextInt();
32        System.out.println("-----");
33        PatternThirtyFive.isThirtyFive(n);
34    }
35 }

```

Console Output:

```

<terminated> PatternThirtyFive (Java Application) C
Enter N number:
5
-----
10000
02000
00300
00040
00005

```


Q.17

```
InnerDimond.java  PatternThirtySix.java  Console
1 package assignment50.NumPattern;
2
3 import java.util.Scanner;
4
5 public class PatternThirtySix
6 {
7     public static void isThirtySix(int n)
8     {
9         int b=1;
10        for(int i=1;i<=n;i++)
11        {
12            for(int j=n;j>i;j--)
13            {
14                System.out.print(b);
15            }
16            for(int j=1;j<=i;j++)
17            {
18                System.out.print(i);
19            }
20            System.out.println();
21        }
22    }
23    public static void main(String[] args)
24    {
25        Scanner sc = new Scanner(System.in);
26        System.out.println("Enter N number: ");
27        int n = sc.nextInt();
28        System.out.println("-----");
29        PatternThirtySix.isThirtySix(n);
30    }
31 }
32
33
```

```
<terminated> PatternThirtySix [Java Application] C:\Users\ShreeL.p
Enter N number:
5
-----
11111
11122
11333
14444
55555
```

Q.18

```
InnerDimond.java  PatternThirtySix.java  PatternThirtySeven.java  Console
1 package assignment50.NumPattern;
2
3 import java.util.Scanner;
4
5 public class PatternThirtySeven
6 {
7     public static void isThirtySeven(int n)
8     {
9         int as=65,ascii=65;
10        for(int i=1;i<=n;i++)
11        {
12            for(int j=n;j>i;j--)
13            {
14                System.out.print((char)as);
15            }
16            for(int j=1;j<=i;j++)
17            {
18                System.out.print((char)ascii);
19            }
20            ascii++;
21            System.out.println();
22        }
23    }
24    public static void main(String[] args)
25    {
26        Scanner sc = new Scanner(System.in);
27        System.out.println("Enter N number: ");
28        int n = sc.nextInt();
29        System.out.println("-----");
30        PatternThirtySeven.isThirtySeven(n);
31    }
32 }
33
```

```
<terminated> PatternThirtySeven [Java Application] C:\Users\ShreeL.p
Enter N number:
5
-----
AAAAA
AAABB
AACCC
ADDDD
EEEE
```

Q.19

```

1 package assignment50.NumPattern;
2
3 import java.util.Scanner;
4
5 public class PatternThirtyEight
6 {
7     public static void isThirtyEight(int n)
8     {
9         for(int i=1;i<=n;i++)
10         {
11             for(int j=n;j>=i;j--)
12             {
13                 System.out.print(" ");
14             }
15             for(int j=1;j<=i;j++)
16             {
17                 System.out.print(j+" ");
18             }
19             System.out.println();
20         }
21         int c=1;
22         for(int i=2;i<=n;i++)
23         {
24             c=1;
25             for(int j=1;j<=i;j++)
26             {
27                 System.out.print(" ");
28             }
29             for(int j=n;j>=i;j--)
30             {
31                 System.out.print(c+++" ");
32             }
33             System.out.println();
34         }
35     }
36     public static void main(String[] args)
37     {

```

Console X

<terminated> PatternThirtyEight [Java Applet]

Enter N number:

9

```

-----
      1
     1 2
    1 2 3
   1 2 3 4
  1 2 3 4 5
 1 2 3 4 5 6
1 2 3 4 5 6 7
1 2 3 4 5 6 7 8
1 2 3 4 5 6 7 8 9
1 2 3 4 5 6 7 8
1 2 3 4 5 6 7
1 2 3 4 5 6
1 2 3 4 5
1 2 3 4
1 2 3
1 2
1

```

```

9     for(int i=1;i<=n;i++)
10     {
11         for(int j=n;j>=i;j--)
12         {
13             System.out.print(" ");
14         }
15         for(int j=1;j<=i;j++)
16         {
17             System.out.print(j+" ");
18         }
19         System.out.println();
20     }
21     int c=1;
22     for(int i=2;i<=n;i++)
23     {
24         c=1;
25         for(int j=1;j<=i;j++)
26         {
27             System.out.print(" ");
28         }
29         for(int j=n;j>=i;j--)
30         {
31             System.out.print(c+++" ");
32         }
33         System.out.println();
34     }
35 }
36 public static void main(String[] args)
37 {
38     Scanner sc = new Scanner(System.in);
39     System.out.println("Enter N number: ");
40     int n = sc.nextInt();
41     System.out.println("-----");
42     PatternThirtyEight.isThirtyEight(n);
43 }
44 }
45

```

Console X

<terminated> PatternThirtyEight [Java Applet]

Enter N number:

9

```

-----
      1
     1 2
    1 2 3
   1 2 3 4
  1 2 3 4 5
 1 2 3 4 5 6
1 2 3 4 5 6 7
1 2 3 4 5 6 7 8
1 2 3 4 5 6 7 8 9
1 2 3 4 5 6 7 8
1 2 3 4 5 6 7
1 2 3 4 5 6
1 2 3 4 5
1 2 3 4
1 2 3
1 2
1

```

Q.20

```

1 package assignment50.NumPattern;
2
3 import java.util.Scanner;
4
5 public class PatternThirtyNine
6 {
7     public static void isThirtyNine(int n)
8     {
9         int ascii=65;
10        for(int i=1;i<=n;i++)
11        {
12            ascii=65;
13            for(int j=n;j>=i;j--)
14            {
15                System.out.print(" ");
16            }
17            for(int j=1;j<=i;j++)
18            {
19                System.out.print((char)ascii+++" ");
20            }
21            System.out.println();
22        }
23        int c=65;
24        for(int i=2;i<=n;i++)
25        {
26            c=65;
27            for(int j=1;j<=i;j++)
28            {
29                System.out.print(" ");
30            }
31            for(int j=n;j>=i;j--)
32            {
33                System.out.print((char)c+++" ");
34            }
35            System.out.println();
36        }
37    }

```

Console

```

<terminated> PatternThirtyNine [Java Application] C:\Users\Shree\p2
Enter N number:
5
-----
A
A B
A B C
A B C D
A B C D E
A B C D
A B C
A B
A

```

```

11 {
12     ascii=65;
13     for(int j=n;j>=i;j--)
14     {
15         System.out.print(" ");
16     }
17     for(int j=1;j<=i;j++)
18     {
19         System.out.print((char)ascii+++" ");
20     }
21     System.out.println();
22 }
23 int c=65;
24 for(int i=2;i<=n;i++)
25 {
26     c=65;
27     for(int j=1;j<=i;j++)
28     {
29         System.out.print(" ");
30     }
31     for(int j=n;j>=i;j--)
32     {
33         System.out.print((char)c+++" ");
34     }
35     System.out.println();
36 }
37 }
38 public static void main(String[] args)
39 {
40     Scanner sc = new Scanner(System.in);
41     System.out.println("Enter N number: ");
42     int n = sc.nextInt();
43     System.out.println("-----");
44     PatternThirtyNine.isThirtyNine(n);
45 }
46 }

```

Console

```

<terminated> PatternThirtyNine [Java Application] C:\Users\Shree\p2
Enter N number:
5
-----
A
A B
A B C
A B C D
A B C D E
A B C D
A B C
A B
A

```

Q.21

```

1 package assignment50.NumPattern;
2
3 import java.util.Scanner;
4
5 public class PatternFourty
6 {
7     public static void isThirtyFourty(int n)
8     {
9         for(int i=1;i<=n;i++)
10         {
11             for(int j=n;j>=i;j--)
12             {
13                 System.out.print(" ");
14             }
15             for(int j=1;j<=i;j++)
16             {
17                 System.out.print("* ");
18             }
19             System.out.println();
20         }
21         for(int i=2;i<=n;i++)
22         {
23             for(int j=1;j<=i;j++)
24             {
25                 System.out.print(" ");
26             }
27             for(int j=n;j>=i;j--)
28             {
29                 System.out.print("* ");
30             }
31             System.out.println();
32         }
33     }
34     public static void main(String[] args)
35     {
36         Scanner sc = new Scanner(System.in);
37         System.out.println("Enter N number: ");

```

```

<terminated> PatternFourty [Java Application] C:\Users\Shree\p2\pool\p
Enter N number:
5
-----
      *
     * *
    * * *
   * * * *
  * * * * *
 * * * * *
* * * * *
 * * *
  * *
   *

```

```

1 package assignment50.NumPattern;
2
3 import java.util.Scanner;
4
5 public class PatternFourty
6 {
7     public static void isThirtyFourty(int n)
8     {
9         for(int i=1;i<=n;i++)
10         {
11             for(int j=n;j>=i;j--)
12             {
13                 System.out.print(" ");
14             }
15             for(int j=1;j<=i;j++)
16             {
17                 System.out.print("* ");
18             }
19             System.out.println();
20         }
21         for(int i=2;i<=n;i++)
22         {
23             for(int j=1;j<=i;j++)
24             {
25                 System.out.print(" ");
26             }
27             for(int j=n;j>=i;j--)
28             {
29                 System.out.print("* ");
30             }
31             System.out.println();
32         }
33     }
34     public static void main(String[] args)
35     {
36         Scanner sc = new Scanner(System.in);
37         System.out.println("Enter N number: ");
38         int n = sc.nextInt();
39         System.out.println("-----");
40         PatternFourty.isThirtyFourty(n);
41     }
42 }

```

```

<terminated> PatternFourty [Java Application] C:\Users\Shree\p2\pool\plugins\
Enter N number:
5
-----
      *
     * *
    * * *
   * * * *
  * * * * *
 * * * * *
* * * * *
 * * *
  * *
   *

```

Q.22

```

1 package assignment50.NumPattern;
2
3 import java.util.Scanner;
4
5 public class PatternNineteen
6 {
7     public static void isNineteen(int n)
8     {
9         int as=69;
10        for(int i=1;i<=n;i++)
11        {
12            as=69;
13            for(int j=n;j>=i;j--)
14            {
15                System.out.print((char)as--);
16            }
17            as++;
18            System.out.println();
19        }
20    }
21    public static void main(String[] args)
22    {
23        Scanner sc = new Scanner(System.in);
24        System.out.println("Enter N number: ");
25        int n = sc.nextInt();
26        System.out.println("-----");
27        PatternNineteen.isNineteen(n);
28    }
29 }
30

```

Console Output:

```

<terminated> PatternNineteen [Java Application] C:\Users\Shree\p2\po
Enter N number:
5
-----
EDCBA
EDCB
EDC
ED
E

```

Q.23

```

1 package assignment50.NumPattern;
2
3 import java.util.Scanner;
4
5 public class PatternTwentyAscii
6 {
7     public static void isTwentyAscii(int n)
8     {
9         int as=69;
10        for(int i=1;i<=n;i++)
11        {
12            as=69;
13            for(int j=1;j<=i;j++)
14            {
15                System.out.print((char)as--);
16            }
17            as++;
18            System.out.println();
19        }
20    }
21    public static void main(String[] args)
22    {
23        Scanner sc = new Scanner(System.in);
24        System.out.println("Enter N number: ");
25        int n = sc.nextInt();
26        System.out.println("-----");
27        PatternTwentyAscii.isTwentyAscii(n);
28    }
29 }
30

```

Console Output:

```

<terminated> PatternTwentyAscii [Java Application] C:\Users\Shree\p2\pool\plugins
Enter N number:
5
-----
E
ED
EDC
EDCB
EDCBA

```

Q.24

```

1 package assignment50.NumPattern;
2
3 import java.util.Scanner;
4
5 public class PatternTwentyOneAscii
6 {
7     public static void isTwentyOneAscii(int n)
8     {
9         int as=65;
10        for(int i=1;i<=n;i++)
11        {
12            for(int j=1;j<=i;j++)
13            {
14                System.out.print((char)as++);
15            }
16            System.out.println();
17        }
18    }
19    public static void main(String[] args)
20    {
21        Scanner sc = new Scanner(System.in);
22        System.out.println("Enter N number: ");
23        int n = sc.nextInt();
24        System.out.println("-----");
25        PatternTwentyOneAscii.isTwentyOneAscii(n);
26    }
27 }
28

```

Console

```

<terminated> PatternTwentyOneAscii [Java Application] C:\Users\Shree\p...
Enter N number:
5
-----
A
BC
DEF
GHIJ
KLMNO

```

Q.25

```

1 package assignment50.NumPattern;
2
3 import java.util.Scanner;
4
5 public class PatternTwentyOneAscii
6 {
7     public static void isTwentyOneAscii(int n)
8     {
9         int number =1;
10        for(int i=1;i<=n;i++)
11        {
12            for(int k=n;k>=i;k--)
13            {
14                System.out.print(" ");
15            }
16            for(int j=0;j<=i;j++)
17            {
18                if(i==0 || j==0)
19                {
20                    number=1;
21                }
22                else
23                {
24                    number=number*(i-j+1)/j;
25                }
26                System.out.print(number+" ");
27            }
28            System.out.println();
29        }
30    }
31    public static void main(String[] args)
32    {
33        Scanner sc = new Scanner(System.in);
34        System.out.println("Enter N number: ");
35        int n = sc.nextInt();
36        System.out.println("-----");
37        PatternTwentyOneAscii.isTwentyOneAscii(n);
38    }
39 }

```

Console

```

<terminated> PatternTwentyOneAscii [Java Application] C:\Users\Shree\p2\pool\p...
Enter N number:
6
-----
      1 1
     1 2 1
    1 3 3 1
   1 4 6 4 1
  1 5 10 10 5 1
 1 6 15 20 15 6 1

```

```

PatternThir... PatternFour... PatternNine... PatternTwen... PatternTwen... X »
4
5 public class PatternTwentyOneAscii
6 {
7     public static void isTwentyOneAscii(int n)
8     {
9         int number =1;
10        for(int i=1;i<=n;i++)
11        {
12            for(int k=n;k>=i;k--)
13            {
14                System.out.print(" ");
15            }
16            for(int j=0;j<=i;j++)
17            {
18                if(i==0 || j==0)
19                {
20                    number=i;
21                }
22                else
23                {
24                    number=number*(i-j+1)/j;
25                }
26                System.out.print(number+" ");
27            }
28            System.out.println();
29        }
30    }
31    public static void main(String[] args)
32    {
33        Scanner sc = new Scanner(System.in);
34        System.out.println("Enter N number: ");
35        int n = sc.nextInt();
36        System.out.println("-----");
37        PatternTwentyOneAscii.isTwentyOneAscii(n);
38    }
39 }

```

```

<terminated> PatternTwentyOneAscii [Java Application] C:\Users\Shree\p2\pool\plugins\c
Enter N number:
6
-----
1 1
1 2 1
1 3 3 1
1 4 6 4 1
1 5 10 10 5 1
1 6 15 20 15 6 1

```

Q.26

```

InnerDimond.java PatternThirtySeven.java PatternTwentyOneAscii.java PatternTwentyThreeAscii.java X
1 package assignment50.NumPattern;
2
3 import java.util.Scanner;
4
5 public class PatternTwentyThreeAscii
6 {
7     public static void isTwentyThreeAscii(int n)
8     {
9         int number =0;
10        for(int i=1;i<=n;i++)
11        {
12            for(int k=n;k>=i;k--)
13            {
14                System.out.print(" ");
15            }
16            for(int j=0;j<=i;j++)
17            {
18                if(i==0 || j==0)
19                {
20                    number=1;
21                }
22                else
23                {
24                    number=number*(i-j+1)/j;
25                }
26                char letter = (char)(number + 64);
27                System.out.print(letter + " ");
28            }
29            System.out.println();
30        }
31    }
32    public static void main(String[] args)
33    {
34        Scanner sc = new Scanner(System.in);
35        System.out.println("Enter N number: ");
36        int n = sc.nextInt();
37        System.out.println("-----");

```

```

<terminated> PatternTwentyThreeAscii [Java Application] C:\Users\Shree
Enter N number:
5
-----
A A
A B A
A C C A
A D F D A
A E J J E A

```

```
InnerDimond.java PatternThirtySeven.java PatternTwentyOneAscii.java PatternTwentyThreeAscii.java
5 public class PatternTwentyThreeAscii
6 {
7     public static void isTwentyThreeAscii(int n)
8     {
9         int number = 0;
10        for(int i=1;i<=n;i++)
11        {
12            for(int k=n;k>=i;k--)
13            {
14                System.out.print(" ");
15            }
16            for(int j=0;j<=i;j++)
17            {
18                if(i==0 || j==0)
19                {
20                    number=1;
21                }
22                else
23                {
24                    number=number*(i-j+1)/j;
25                }
26                char letter = (char) (number + 64);
27                System.out.print(letter + " ");
28            }
29            System.out.println();
30        }
31    }
32    public static void main(String[] args)
33    {
34        Scanner sc = new Scanner(System.in);
35        System.out.println("Enter N number: ");
36        int n = sc.nextInt();
37        System.out.println("-----");
38        PatternTwentyThreeAscii.isTwentyThreeAscii(n);
39    }
40 }
```

```
<terminated> PatternTwentyThreeAscii [Java Application] C:\Users\Shree\p2\p
Enter N number:
5
-----
A A
A B A
A C C A
A D F D A
A E J J E A
```

Q.27

```
InnerDimond.java PatternThirtySeven.java PatternTwentyFourAscii.java
1 package assignment50.NumPattern;
2
3 import java.util.Scanner;
4
5 public class PatternTwentyFourAscii
6 {
7     public static void isTwentyFourAscii(int n)
8     {
9         for(int i=1;i<=n;i++)
10        {
11            for(int j=1;j<=i;j++)
12            {
13                System.out.print(j+" ");
14            }
15            System.out.println();
16        }
17        int c=1;
18        for(int i=2;i<=n;i++)
19        {
20            c=1;
21            for(int j=n;j>=i;j--)
22            {
23                System.out.print(c+++" ");
24            }
25            System.out.println();
26        }
27    }
28    public static void main(String[] args)
29    {
30        Scanner sc = new Scanner(System.in);
31        System.out.println("Enter N number: ");
32        int n = sc.nextInt();
33        System.out.println("-----");
34        PatternTwentyFourAscii.isTwentyFourAscii(n);
35    }
36 }
```

```
<terminated> PatternTwentyFourAscii [Java Application] C:\Use
Enter N number:
5
-----
1
1 2
1 2 3
1 2 3 4
1 2 3 4 5
1 2 3 4
1 2 3
1 2
1
```


Q.28

```

1 package assignment50.NumPattern;
2
3 import java.util.Scanner;
4
5 public class PatternTwentyFiveAscii
6 {
7     public static void isTwentyFiveAscii(int n)
8     {
9         int ascii=65;
10        for(int i=1;i<=n;i++)
11        {
12            ascii=65;
13            for(int j=1;j<=i;j++)
14            {
15                System.out.print((char)ascii+++" ");
16            }
17            System.out.println();
18        }
19        int c=65;
20        for(int i=2;i<=n;i++)
21        {
22            c=65;
23            for(int j=n;j>=i;j--)
24            {
25                System.out.print((char)c+++" ");
26            }
27            System.out.println();
28        }
29    }
30    public static void main(String[] args)
31    {
32        Scanner sc = new Scanner(System.in);
33        System.out.println("Enter N number: ");
34        int n = sc.nextInt();
35        System.out.println("-----");
36        PatternTwentyFiveAscii.isTwentyFiveAscii(n);
37    }
38 }

```

Console Output:

```

Enter N number:
5
-----
A
A B
A B C
A B C D
A B C D E
A B C D
A B C
A B
A

```

Q.29

```

1 package assignment50.NumPattern;
2
3 import java.util.Scanner;
4
5 public class PatternTwentySixStar
6 {
7     public static void isTwentySixStar(int n)
8     {
9         for(int i=1;i<=n;i++)
10        {
11            for(int j=1;j<=i;j++)
12            {
13                System.out.print("* ");
14            }
15            System.out.println();
16        }
17        for(int i=2;i<=n;i++)
18        {
19            for(int j=n;j>=i;j--)
20            {
21                System.out.print("* ");
22            }
23            System.out.println();
24        }
25    }
26    public static void main(String[] args)
27    {
28        Scanner sc = new Scanner(System.in);
29        System.out.println("Enter N number: ");
30        int n = sc.nextInt();
31        System.out.println("-----");
32        PatternTwentySixStar.isTwentySixStar(n);
33    }
34 }

```

Console Output:

```

Enter N number:
5
-----
*
* *
* * *
* * * *
* * * * *
* * * *
* * *
* *
*

```

Q.30

The image shows two screenshots of a Java IDE. The top screenshot displays a Java program with a bug in the nested loops of the `isTwentySevenStar` method. The bottom screenshot shows the corrected code, which properly prints a diamond pattern. The console output for both is identical, showing a diamond shape made of asterisks.

```

1 package assignment50.NumPattern;
2
3 import java.util.Scanner;
4
5 public class PatternTwentySevenStar
6 {
7     public static void isTwentySevenStar(int n)
8     {
9         for(int i=1;i<=n;i++)
10         {
11             for(int j=n;j>=i;j--)
12             {
13                 System.out.print(" ");
14             }
15             for(int j=1;j<=i;j++)
16             {
17                 System.out.print("*");
18             }
19             System.out.println();
20         }
21         for(int i=2;i<=n;i++)
22         {
23             for(int j=1;j<=i;j++)
24             {
25                 System.out.print(" ");
26             }
27             for(int j=n;j>=i;j--)
28             {
29                 System.out.print("*");
30             }
31             System.out.println();
32         }
33     }
34     public static void main(String[] args)
35     {
36         Scanner sc = new Scanner(System.in);
37         System.out.println("Enter N number: ");
38     }
39 }

```

Console Output (for both versions):

```

Enter N number:

-----
 *
 **
 ***
 ****
 *****
 *****
 *****
 ****
 ***
 **
 *

```

```

6 {
7     public static void isTwentySevenStar(int n)
8     {
9         for(int i=1;i<=n;i++)
10        {
11            for(int j=n;j>=i;j--)
12            {
13                System.out.print(" ");
14            }
15            for(int j=1;j<=i;j++)
16            {
17                System.out.print("*");
18            }
19            System.out.println();
20        }
21        for(int i=2;i<=n;i++)
22        {
23            for(int j=1;j<=i;j++)
24            {
25                System.out.print(" ");
26            }
27            for(int j=n;j>=i;j--)
28            {
29                System.out.print("*");
30            }
31            System.out.println();
32        }
33    }
34    public static void main(String[] args)
35    {
36        Scanner sc = new Scanner(System.in);
37        System.out.println("Enter N number: ");
38        int n = sc.nextInt();
39        System.out.println("-----");
40        PatternTwentySevenStar.isTwentySevenStar(n);
41    }
42 }

```

Q.31

```

1 package assignment50.NumPattern;
2 import java.util.Scanner;
3 public class PatternTwentyEightNum
4 {
5     public static void isTwentyEightNum(int n)
6     {
7         int c=1;
8         for(int i=1;i<=n;i++)
9         {
10            c=1;
11            for(int j=i;j<=n;j++)
12            {
13                System.out.print(c+++" ");
14            }
15            System.out.println();
16        }
17        int c1=1;
18        for(int i=2;i<=n;i++)
19        {
20            c1=1;
21            for(int j=i;j>=1;j--)
22            {
23                System.out.print(c1+++" ");
24            }
25            System.out.println();
26        }
27    }
28    public static void main(String[] args)
29    {
30        Scanner sc = new Scanner(System.in);
31        System.out.println("Enter N number: ");
32        int n = sc.nextInt();
33        System.out.println("-----");
34        PatternTwentyEightNum.isTwentyEightNum(n);
35    }
36 }
37

```

Console Output:

```

<terminated> PatternTwentyEightNum [Java Application] C:\U
Enter N number:
5
-----
1 2 3 4 5
1 2 3 4
1 2 3
1 2
1
1 2
1 2 3
1 2 3 4
1 2 3 4 5

```

Q.32

```

1 package assignment50.NumPattern;
2
3 import java.util.Scanner;
4
5 public class PatternTwentyNineNum
6 {
7     public static void isTwentyNineNum(int n)
8     {
9         for(int i=n;i>=1;i--)
10        {
11            for(int j=i;j>=1;j--)
12            {
13                System.out.print(j+" ");
14            }
15            System.out.println();
16        }
17        int c=1;
18        for(int i=2;i<=n;i++)
19        {
20            c=1;
21            for(int j=i;j>=1;j--)
22            {
23                System.out.print(j+" ");
24            }
25            System.out.println();
26        }
27    }
28    public static void main(String[] args)
29    {
30        Scanner sc = new Scanner(System.in);
31        System.out.println("Enter N number: ");
32        int n = sc.nextInt();
33        System.out.println("-----");
34        PatternTwentyNineNum.isTwentyNineNum(n);
35    }
36 }
37

```

Console Output:

```

<terminated> PatternTwentyNineNum [Java Application] C:\Users\Sh
Enter N number:
5
-----
5 4 3 2 1
4 3 2 1
3 2 1
2 1
1
2 1
3 2 1
4 3 2 1
5 4 3 2 1

```

Q.33

```

1 package assignment50.NumPattern;
2 import java.util.Scanner;
3 public class PatternTwentyThirtyAscii
4 {
5     public static void isTwentyThirtyAscii(int n)
6     {
7         int c=65;
8         for(int i=1;i<=n;i++)
9         {
10            c=65;
11            for(int j=i;j<=n;j++)
12            {
13                System.out.print((char)c+++ " ");
14            }
15            System.out.println();
16        }
17        int c1=65;
18        for(int i=2;i<=n;i++)
19        {
20            c1=65;
21            for(int j=i;j>=1;j--)
22            {
23                System.out.print((char)c1+++ " ");
24            }
25            System.out.println();
26        }
27    }
28    public static void main(String[] args)
29    {
30        Scanner sc = new Scanner(System.in);
31        System.out.println("Enter N number: ");
32        int n = sc.nextInt();
33        System.out.println("-----");
34        PatternTwentyThirtyAscii.isTwentyThirtyAscii(n);
35    }
36 }
37

```

Console Output:

```

<terminated> PatternTwentyThirtyAscii [Java Application] C:\Users\Shree\p2\
Enter N number:
5
-----
A B C D E
A B C D
A B C
A B
A
A B
A B C
A B C D
A B C D E

```

Q.34

```

1 package assignment50.NumPattern;
2 import java.util.Scanner;
3 public class PatternTwentyThirtyOneAscii
4 {
5     public static void isTwentyThirtyOneAscii(int n)
6     {
7         for(int i=1;i<=n;i++)
8         {
9             int c=70-i;
10            for(int j=n;j>=i;j--)
11            {
12                System.out.print((char)c+" ");
13                c--;
14            }
15            System.out.println();
16        }
17        for(int i=2;i<=n;i++)
18        {
19            int c1=64+i;
20            for(int j=1;j<=i;j++)
21            {
22                System.out.print((char)c1+" ");
23                c1--;
24            }
25            System.out.println();
26        }
27    }
28    public static void main(String[] args)
29    {
30        Scanner sc = new Scanner(System.in);
31        System.out.println("Enter N number: ");
32        int n = sc.nextInt();
33        System.out.println("-----");
34        PatternTwentyThirtyOneAscii.isTwentyThirtyOneAscii(n);
35    }
36 }
37

```

Console Output:

```

<terminated> PatternTwentyThirtyOneAscii [Java Application] C:\Users\Shree\p2\
Enter N number:
5
-----
E D C B A
D C B A
C B A
B A
A
B A
C B A
D C B A
E D C B A

```

Q.35

```

1 package assignment50.NumPattern;
2
3 import java.util.Scanner;
4
5 public class PatternTwentyThirtyTwoAscii
6 {
7     public static void isTwentyThirtyTwoAscii(int n)
8     {
9         for(int i=1;i<=n;i++)
10         {
11             for(int j=n;j>=i;j--)
12             {
13                 System.out.print("* ");
14             }
15             System.out.println();
16         }
17         for(int i=2;i<=n;i++)
18         {
19             for(int j=1;j<=i;j++)
20             {
21                 System.out.print("* ");
22             }
23             System.out.println();
24         }
25     }
26     public static void main(String[] args)
27     {
28         Scanner sc = new Scanner(System.in);
29         System.out.println("Enter N number: ");
30         int n = sc.nextInt();
31         System.out.println("-----");
32         PatternTwentyThirtyTwoAscii.isTwentyThirtyTwoAscii(n);
33     }
34 }
35

```

Console Output:

```

<terminated> PatternTwentyThirtyTwoAscii [Java Application]
Enter N number:
5
-----
* * * * *
* * * *
* * *
* *
*
* *
* * *
* * * *
* * * * *

```

Q.36

```

1 package assignment50.NumPattern;
2
3 import java.util.Scanner;
4
5 public class PatternTwentyThirtyThreeAscii
6 {
7     public static void isTwentyThirtyThreeAscii(int n)
8     {
9         int num=1,c=1;
10         for(int i=1;i<=n;i++)
11         {
12             for(int j=n;j>=i;j--)
13             {
14                 System.out.print(" ");
15             }
16             for(int j=1;j<=i;j++)
17             {
18                 System.out.print(j+" ");
19             }
20             for(int j=i-1;j>=1;j--)
21             {
22                 System.out.print(j+" ");
23             }
24             System.out.println();
25         }
26     }
27     public static void main(String[] args)
28     {
29         Scanner sc = new Scanner(System.in);
30         System.out.println("Enter N number: ");
31         int n = sc.nextInt();
32         System.out.println("-----");
33         PatternTwentyThirtyThreeAscii.isTwentyThirtyThreeAscii(n);
34     }
35 }

```

Console Output:

```

<terminated> PatternTwentyThirtyThreeAscii [Java Application]
Enter N number:
5
-----
          1
        1 2 1
      1 2 3 2 1
    1 2 3 4 3 2 1
  1 2 3 4 5 4 3 2 1

```

Q.37

```

1 package assignment50.NumPattern;
2
3 import java.util.Scanner;
4
5 public class PatternTwentyThirtyFourAscii
6 {
7     public static void isTwentyThirtyFourAscii(int n)
8     {
9         int num=63,c=68;
10        for(int i=0;i<=n;i++)
11        {
12            for(int j=n;j>=i;j--)
13            {
14                System.out.print(" ");
15            }
16            num=65;
17            for(int j=0;j<=i;j++)
18            {
19                System.out.print((char) ('A'+j)+ " ");
20            }
21            for(int j=i-1;j>=0;j--)
22            {
23                System.out.print((char) ('A'+j)+ " ");
24            }
25            // c--;
26            System.out.println();
27        }
28    }
29    public static void main(String[] args)
30    {
31        Scanner sc = new Scanner(System.in);
32        System.out.println("Enter N number: ");
33        int n = sc.nextInt();
34        System.out.println("-----");
35        PatternTwentyThirtyFourAscii.isTwentyThirtyFourAscii(n);
36    }
37 }

```

Console Output:

```

<terminated> PatternTwentyThirtyFourAscii [Java Applicat
Enter N number:
5
-----
      A
     A B A
    A B C B A
   A B C D C B A
  A B C D E D C B A
 A B C D E F E D C B A

```

Q.38

```

1 package assignment50.NumPattern;
2
3 import java.util.Scanner;
4
5 public class PatternThirtyFourNum
6 {
7     public static void isThirtyFourNum(int n)
8     {
9         int num=63,c=68;
10        for(int i=1;i<=n;i++)
11        {
12            for(int j=i;j<=n;j++)
13            {
14                System.out.print(j+" ");
15            }
16            for(int j=1;j<=i;j++)
17            {
18                System.out.print(j+" ");
19            }
20            System.out.println();
21        }
22    }
23    public static void main(String[] args)
24    {
25        Scanner sc = new Scanner(System.in);
26        System.out.println("Enter N number: ");
27        int n = sc.nextInt();
28        System.out.println("-----");
29        PatternThirtyFourNum.isThirtyFourNum(n);
30    }
31 }

```

Console Output:

```

<terminated> PatternThirtyFourNum [Java Applic
Enter N number:
5
-----
1 2 3 4 5
2 3 4 5 1
3 4 5 1 2
4 5 1 2 3
5 1 2 3 4

```

Q.39

```

1 package assignment50.NumPattern;
2
3 import java.util.Scanner;
4
5 public class PatternThirtyFiveNum
6 {
7     public static void isThirtyFiveNum(int n)
8     {
9         int num=63,c=68;
10        for(int i=1;i<=n;i++)
11        {
12            for(int j=i;j<=n;j++)
13            {
14                System.out.print(j+" ");
15            }
16            for(int j=i;j>1;j--)
17            {
18                System.out.print(j-1+" ");
19            }
20            System.out.println();
21        }
22    }
23    public static void main(String[] args)
24    {
25        Scanner sc = new Scanner(System.in);
26        System.out.println("Enter N number: ");
27        int n = sc.nextInt();
28        System.out.println("-----");
29        PatternThirtyFiveNum.isThirtyFiveNum(n);
30    }
31 }

```

Console

```

<terminated> PatternThirtyFiveNum [Java Application]
Enter N number:
5
-----
1 2 3 4 5
2 3 4 5 1
3 4 5 2 1
4 5 3 2 1
5 4 3 2 1

```

Q.40

```

1 package assignment50.NumPattern;
2
3 import java.util.Scanner;
4
5 public class PatternThirtySixNum
6 {
7     public static void isThirtySixNum(int n)
8     {
9         int num=63,c=1;
10        for(int i=0;i<=n;i++)
11        {
12            for(int j=0;j<=n-i;j++)
13            {
14                System.out.print((1 + 2 * (i + j))+" ");
15            }
16            for(int j=0;j<=i;j++)
17            {
18                System.out.print(1+2*j+" ");
19            }
20            System.out.println();
21        }
22    }
23    public static void main(String[] args)
24    {
25        Scanner sc = new Scanner(System.in);
26        System.out.println("Enter N number: ");
27        int n = sc.nextInt();
28        System.out.println("-----");
29        PatternThirtySixNum.isThirtySixNum(n);
30    }
31 }

```

Console

```

<terminated> PatternThirtySixNum [Java Application]
Enter N number:
5
-----
1 3 5 7 9
3 5 7 9 1
5 7 9 1 3
7 9 1 3 5
9 1 3 5 7

```

Q.41

```

1 package assignment50.NumPattern;
2
3 import java.util.Scanner;
4
5 public class PatternThirtySevenNum
6 {
7     public static void isThirtySevenNum(int n)
8     {
9         int num=63,c=1;
10        for(int i=0;i<n;i++)
11        {
12            for(int j=0;j<n-i;j++)
13            {
14                System.out.print((1+2*(i+j))+" ");
15            }
16            for(int j=i-1;j>=0;j--)
17            {
18                System.out.print((1+2*j)+" ");
19            }
20            System.out.println();
21        }
22    }
23    public static void main(String[] args)
24    {
25        Scanner sc = new Scanner(System.in);
26        System.out.println("Enter N number: ");
27        int n = sc.nextInt();
28        System.out.println("-----");
29        PatternThirtySevenNum.isThirtySevenNum(n);
30    }
31 }

```

Console Output:

```

<terminated> PatternThirtySevenNum (Java Appli
Enter N number:
5
-----
1 3 5 7 9
3 5 7 9 1
5 7 9 3 1
7 9 5 3 1
9 7 5 3 1

```

Q.42

```

1 package assignment50.NumPattern;
2
3 import java.util.Scanner;
4
5 public class PatternThirtyEightNum
6 {
7     public static void isThirtyEightNum(int n)
8     {
9         int num=63,c=1;
10        for(int i=1;i<=n;i++)
11        {
12            for(int j=1;j<=i;j++)
13            {
14                System.out.print(j+"");
15            }
16            for(int j=n;j>i;j--)
17            {
18                System.out.print(" ");
19            }
20            for(int j=i;j>=1;j--)
21            {
22                System.out.print(j+"");
23            }
24            System.out.println();
25        }
26    }
27    public static void main(String[] args)
28    {
29        Scanner sc = new Scanner(System.in);
30        System.out.println("Enter N number: ");
31        int n = sc.nextInt();
32        System.out.println("-----");
33        PatternThirtyEightNum.isThirtyEightNum(n);
34    }
35 }

```

Console Output:

```

<terminated> PatternThirtyEightNum (Java App
Enter N number:
5
-----
1          1
12         21
123        321
1234       4321
12345      54321

```


Q.45

```

1 package assignment50.NumPattern;
2
3 import java.util.Scanner;
4
5 public class PatternFortyOneNum
6 {
7     public static void isFortyOneNum(int n)
8     {
9         for(int i=1;i<=n;i++)
10         {
11             for(int j=n;j>=i;j--)
12             {
13                 System.out.print(j+"");
14             }
15             for(int j=1;j<=i;j++)
16             {
17                 System.out.print(" ");
18             }
19             for(int j=i;j<=n;j++)
20             {
21                 System.out.print(j+"");
22             }
23             System.out.println();
24         }
25     }
26     public static void main(String[] args)
27     {
28         Scanner sc = new Scanner(System.in);
29         System.out.println("Enter N number: ");
30         int n = sc.nextInt();
31         System.out.println("-----");
32         PatternFortyOneNum.isFortyOneNum(n);
33     }
34 }

```

Console Output:

```

<terminated> PatternFortyOneNum [Java Applicat
Enter N number:
5
-----
5432112345
5432 2345
543 345
54 45
5 5

```

Q.46

```

1 package assignment50.NumPattern;
2
3 import java.util.Scanner;
4
5 public class PatternFortyTwoNum
6 {
7     public static void isFortyTwoNum(int n)
8     {
9         for(int i=n;i>=1;i--)
10         {
11             for(int j=1;j<=i;j++)
12             {
13                 System.out.print(j+"");
14             }
15             for(int j=n;j>=i;j--)
16             {
17                 System.out.print(" ");
18             }
19             for(int j=i;j>=1;j--)
20             {
21                 System.out.print(j+"");
22             }
23             System.out.println();
24         }
25     }
26     public static void main(String[] args)
27     {
28         Scanner sc = new Scanner(System.in);
29         System.out.println("Enter N number: ");
30         int n = sc.nextInt();
31         System.out.println("-----");
32         PatternFortyTwoNum.isFortyTwoNum(n);
33     }
34 }

```

Console Output:

```

<terminated> PatternFortyTwoNum [Java Applicat
Enter N number:
5
-----
1234554321
1234 4321
123 321
12 21
1 1

```

Q.47

The screenshot shows an IDE with a Java file named `PatternFourtyThreeNum.java`. The code defines a class `PatternFourtyThreeNum` with a static method `isFourtyThreeNum` and a `main` method. The `isFourtyThreeNum` method takes an integer `n` and prints a diamond pattern of numbers. The `main` method uses a `Scanner` to read the input `n` and calls `isFourtyThreeNum`.

```

1 package assignment50.NumPattern;
2
3 import java.util.Scanner;
4
5 public class PatternFourtyThreeNum
6 {
7     public static void isFourtyThreeNum(int n)
8     {
9         int b=4;
10        for(int i=1;i<=n;i++)
11        {
12            for(int j=1;j<=i;j++)
13            {
14                System.out.print(j+" ");
15            }
16            for(int j=i-1;j>=1;j--)
17            {
18                System.out.print(j+" ");
19            }
20            System.out.println();
21        }
22        for(int i=n;i>=1;i--)
23        {
24            b=1;
25            for(int j=1;j<=i;j++)
26            {
27                System.out.print(j+" ");
28            }
29            for(int j=i-1;j>=1;j--)
30            {
31                System.out.print(j+" ");
32            }
33            System.out.println();
34        }
35    }
36    public static void main(String[] args)
37    {

```

The console output shows the pattern for `n=5`:

```

Enter N number:
5
-----
1
1 2 1
1 2 3 2 1
1 2 3 4 3 2 1
1 2 3 4 5 4 3 2 1
1 2 3 4 3 2 1
1 2 3 2 1
1 2 1
1

```

Q.49

The screenshot shows an IDE with a Java file named `PatternFourtyFiveNum.java`. The code defines a class `PatternFourtyFiveNum` with a static method `isFourtyFiveNum` and a `main` method. The `isFourtyFiveNum` method takes an integer `n` and prints a diamond pattern of numbers. The `main` method uses a `Scanner` to read the input `n` and calls `isFourtyFiveNum`.

```

2
3 import java.util.Scanner;
4
5 public class PatternFourtyFiveNum
6 {
7     public static void isFourtyFiveNum(int n)
8     {
9         int b=4;
10        for(int i=1;i<=n;i++)
11        {
12            for(int j=1;j<=i;j++)
13            {
14                System.out.print(i+" ");
15            }
16            System.out.println();
17        }
18        int b1=6;
19        for(int i=1;i<=n;i++)
20        {
21            for(int j=n;j>=i;j--)
22            {
23                System.out.print(b1+" ");
24            }
25            System.out.println();
26            b1++;
27        }
28    }
29    public static void main(String[] args)
30    {
31        Scanner sc = new Scanner(System.in);
32        System.out.println("Enter N number: ");
33        int n = sc.nextInt();
34        System.out.println("-----");
35        PatternFourtyFiveNum.isFourtyFiveNum(n);
36    }
37
38 }

```

The console output shows the pattern for `n=5`:

```

Enter N number:
5
-----
1
2 2
3 3 3
4 4 4 4
5 5 5 5 5
6 6 6 6 6
7 7 7
8 8
9

```