JBK1030-Nested Loop Solved Assignment

```
1)class ForLoopExample {
   public static void main(String args[]){
      for(int i=1; i<10; i++){
         System.out.println("The value of i is: "+i);
      } } }
2)class ForLoopExample {
   public static void main(String args[]){
      for(int i=10; i>1; i--){
         System.out.println("The value of i is: "+i);
      } } }
```

3)Print below pattern

```
        #
        ##
        ###
        ####
        #####
public class Pyramids {
 public static void main(String[] args) {
      for (int i = 1; i <= 5; i++) {
        for (int j = 1; j <= i; j++) {
           System.out.print("#"); }
        System.out.println("");
      }  }
```

4) Print below pattern

```
     #
    ##
   ###
  ####
 #####
######

public class Pyramids {
public static void main(String[] args) {
    for (int i = 5; i >= 0; i--) {
```

```
        for (int s = 1; s < i; s++) {
           System.out.print(" ");
        }
        for (int j = 5; j >= i; j--) {
           System.out.print("#");
        }
        System.out.println("");
     }  }   }
```

5) Print below pattern

```
     #####
      ####
       ###
        ##
         #
public class Pyramids {
   public static void main(String[] args) {
      for (int i = 1; i <= 5; i++) {
        for (int s = 1; s < i; s++) {
           System.out.print(" ");
        }
        for (int j = 5; j >= i; j--) {
           System.out.print("#");
        }
        System.out.println("");
     }   }    }
```

6) Print below pattern

```
   ##
   ####
   ######
   ########
   ########
   ######
   ####
   ##
```

```
public class Pyramids {
public static void main(String[] args) {
    for (int i = 1; i <= 5; i++) {
        for (int s = 5; s > i; s--) {
           System.out.print(" ");
        } for (int j = 1; j < i; j++) {
           System.out.print("#");
        }  for (int j = 1; j < i; j++) {
           System.out.print("#");
        }  System.out.println("");
      }
      for (int i = 1; i <= 5; i++) {
        for (int s = 1; s < i; s++) {
           System.out.print(" ");
        }
        for (int j = 5; j > i; j--) {
           System.out.print("#");
        }
        for (int j = 5; j > i; j--) {
           System.out.print("#");
        }
        System.out.println("");
      }  }     }
```

7) Print below pattern

```
*
* *
* * *
* * * *
* * * * *
* * * * *
* * * *
* * *
* *
*
```

```
public class JavaPyramid3 {
public static void main(String[] args) {
```

```
for(int i=1; i<= 5 ;i++){

    for(int j=0; j < i; j++){
        System.out.print("*");
    }
    System.out.println("");
  }
for(int i=5; i>0 ;i--){
   for(int j=0; j < i; j++){
        System.out.print("*");
    }  System.out.println("");
}   }     }
```

8) Print below pattern

```
* * * * *
 * * * *
 * * *
 * *
 *
 *
 * *
 * * *
 * * * *
 * * * * *
```

```
public class JavaPyramid6 {
 public static void main(String[] args) {
        //generate upper half of the pyramid
        for(int i=5; i>0 ;i--){
            for(int j=0; j < i; j++){
                System.out.print("*"); }
            //create a new line
             System.out.println("");     }
       //generate bottom half of the pyramid
        for(int i=1; i<= 5 ;i++){
          for(int j=0; j < i; j++){
                System.out.print("*");       }
            //create a new line
             System.out.println("");
        }   }   }
```

9) Print below pattern

```
1
12
123
1234
12345
```

```
public class testFor  {
public static void main(String [] args) {
for (int i=1; i<=5; i++)  {
System.out.println();
for (int j=1; j<=i; j++) {
System.out.print(j);
} }
System.out.println();
} }
```

10) Print below pattern

```
12345
1234
123
12
1
```

```
public class JavaPyramid5 {
  public static void main(String[] args) {
        for(int i=5; i>0 ;i--){
            for(int j=0; j < i; j++){
                System.out.print(j+1);
             }
            System.out.println("");
        }    }   }
```

11) Print below pattern

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

```
public class JavaProgram   {
  public static void main(String args[])   {
```

```
int i, j, n=1;
for(i=0; i<5; i++)  {
   for(j=0; j<=i; j++)  {
      System.out.print(n+ " ");
      n++;
   }  System.out.println();
} }  }
```

Write a program to generate a following @'s triangle:

```
    @
   @@
  @@@
 @@@@
@@@@@
public class Pyramid2  {
  public static void main(String args[])  {
     Scanner sc = new Scanner(System.in);
     System.out.println("Enter the value ");
     int n = sc.nextInt();
for (int i = 0; i < n; i++)  {
        for (int spc = n - i; spc > 0; spc--)    {
           System.out.print(" ");
        }  for (int j = 0; j <= i; j++)   {
           System.out.print("@");
        }  System.out.println();   }  }  }
```

Write a Java program to print the following triangle:

```
    *
   * * *
  * * * * *
 * * * * * * *
* * * * * * * * *
* * * * * * * * * * *
public class TrainglePyramid  {
   public static void main(String args[])  {
     Scanner sc = new Scanner(System.in);
```

```
System.out.println("Enter the value ");
int n = sc.nextInt();
int count = 1;
for (int i = 0; i < n; i++)  {
  for (int spc = n - i; spc > 0; spc--)  {
    System.out.print(" ");  }
  for (int j = 0; j < count; j++)    {
    System.out.print("*");
  }   count = count + 2;
  System.out.println();   }  } }
```

Write a Java program to display the following rhombus symbol structure:

```
    *
   * * *
  * * * * *
 * * * * * * *
  * * * * *
   * * *
    *
```

```
public class FullTraingle {
  public static void main(String args[])  {
    Scanner sc = new Scanner(System.in);
    System.out.println("Enter the value ");
    int n = sc.nextInt();
    int count = 1;
    int noOfSpace = 1;
    for (int i = 1; i < (n * 2); i++)   {
      for (int spc = n - noOfSpace; spc > 0; spc--)   {
        System.out.print(" ");
      }   if (i < n)   {
        noOfSpace++;
      } else  {
        noOfSpace--;
      }  for (int j = 0; j < count; j++)   {
        System.out.print("*");
      }  if (i < n)  {
```

```
            count = count + 2;
          } else    {
            count = count - 2;
          }
          System.out.println();
        } } }
```

Write a Java program to display the following number diamond structure:

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

```
public class NumberPyramid  {
   public static void main(String args[])   {
      Scanner sc = new Scanner(System.in);
      System.out.println("Enter the value ");
      int n = sc.nextInt();
      int count = 1;
      int noOfSpace = 1;
      int start = 0;
      for (int i = 1; i < (n * 2); i++)   {
         for (int spc = n - noOfSpace; spc > 0; spc--)   {
            System.out.print(" ");
         }
         if (i < n)    {
            start = i;          //this is for number
            noOfSpace++;    //this is for space
         } else   {
            start = n * 2 - i;       //this is for number
            noOfSpace--;           //this is for space
         }     for (int j = 0; j < count; j++)   {
            System.out.print(start);
```

```
            if (j < count / 2)   {
               start--;
            } else   {
               start++;
            }   }
         if (i < n)  {
            count = count + 2;
         } else {
            count = count - 2;
         }   System.out.println();
      }  }  }
```

Write a Java program to print the following number pyramid:

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

```
public class MyPyramid {
   public static void main(String args[])  {
      Scanner sc = new Scanner(System.in);
      System.out.println("Enter the value ");
      int n = sc.nextInt();
      for (int i = 0; i < n; i++)   {
         for (int spc = n - i; spc > 0; spc--)   {
            System.out.print(" ");
         }  for (int j = 0; j <= i; j++)   {
            System.out.print((i + 1) + " ");
         }   System.out.println();
      }  }  }
```

Write a Java program to display the following character rhombus structure:

```
          A
```

```
        A B A
      A B C B A
    A B C D C B A
      A B C B A
        A B A
          A
```

```
public class AbcdPyramid {
  public static void main(String args[])  {
    Scanner sc = new Scanner(System.in);
    System.out.println("Enter the value ");
    int n = sc.nextInt();
    int count = 1;
    int count2 = 1;
    char c = 'A';
    for (int i = 1; i < (n * 2); i++)  {
      for (int spc = n - count2; spc > 0; spc--)
      // Logic to print space  {
        System.out.print(" ");
      }
 if (i < n)  {
        count2++;
      }  else  {
        count2--;
      }  for (int j = 0; j < count; j++)  {
        System.out.print(c);// Logic to print Character
        if (j < count / 2)  {
          c++;
        } else  {
          c--;
        }  } if (i < n)  {
        count = count + 2;
      }  else  {
        count = count - 2;
      } c = 'A';
      System.out.println();
```

```
} } }
```

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

To Print this pattern use the following code:

```
public class numPtr {
   public static void main( String arg[]){
        for(int i=1;i<=5;i++){
        for(int j=5;j>=i;j--){
           System.out.print(j);
        }  System.out.println();
     } } }
```

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

To Print this pattern use the following code:

```
public class numPtr {
   public static void main( String arg[]){
        for(int i=1,r=5;i<=5;i++,r--){
         for(int j=1;j<=r;j++){
           System.out.print(j);
         } System.out.println();
} } }
```

```
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
```

To Print this pattern use the following code:

```
public class numPtr {
   public static void main( String arg[]){
int ck=0,c=2;
      while(c>0){
      if(ck==0){
         for(int i=1;i<=5;i++){
         for(int j=1;j<=i;j++){
            System.out.print(j);
         }
         System.out.println();       }
         ck++;
       } else{
         for(int i=1,r=5-1;i<=5-1;i++,r--){
         for(int j=1;j<=r;j++){
            System.out.print(j);          }
         System.out.println();    } }    c--;    } } }
```

```
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
```

To Print this pattern use the following code:

```
public class numPtr {
   public static void main( String arg[]){
int ck=0,c=2;
      while(c>0){
      if(ck==0){
         for(int i=1,r=5;i<=5;i++,r--){
```

```
            for(int j=1;j<=r;j++){
               System.out.print(j);
            }   System.out.println();      }
            ck++;
          } else{
            for(int i=2;i<=5;i++){
            for(int j=1;j<=i;j++){
               System.out.print(j);         }
            System.out.println();
           }  }  c--;  } } }
```

```
@@@@
@@@@
@@@@
@@@@
```

```
Class pattern{
public static void main( String arg[]){
for( int i=0; i< 4; i++)  {
for( int j=0; j< 4; j++)  {
System.out.print("@");
}  System.out.println();
}  }  }
```

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

```
class pattern {
public static void main( String arg[]){
int i,j,k,m,x;
for(i=0;i< 5;i++) {
x=1;
for(j=i;j< 5;j++)
System.out.print(x++);
for(k=0;k<  i; k++)
System.out.print(" ");
```

```
x=x-1;
for(m=i;m< 5;m++)
System.out.print(x–);
System.out.println();
} } }
```

```
A B C D E
B C D E
C D E
D E
E
class Pattern {
public static void main( String arg[]){
int i,j,sum=0;
     for(i='A';i<='E';i++)  {
for(j=i;j<='E';j++)
          System.out.print((char)j+"  ");
        System.out.println();
     }  } }
```

```
        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
import java.io.*;
class Pattern2 {
public static void main( String arg[]){
BufferedReader br=new BufferedReader(new
InputStreamReader(System.in));
     System.out.println("Enter the value for n");
     int n=Integer.parseInt(br.readLine());
```

```
int i,j,k;
for(i=1;i<=n;i++)
{for(j=1;j<=i;j++)
    System.out.print(j);
  for(k=i-1;k>=1;k–)
    System.out.print(k);
  System.out.println();  }
for(i=n-1;i>=1;i–)
{for(j=1;j<=i;j++)
    System.out.print(j);
  for(k=i-1;k>=1;k–)
    System.out.print(k);
  System.out.println();
}  } }
```

```
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
class Pattern {
 public static void main( String arg[]){
int sp=4;
for(int i=1;i<=5;i++)
 {
for(int j=1;j<=sp;j++)
  System.out.print(" ");
  for(int k=1;k<=i;k++)
  System.out.print(k);
  for(int m=i-1;i>=1;i–)
  System.out.print(m);
  System.out.println();
  sp–;
 } }
}
```

Print the following pattern

```
1
10
101
1010
10101
import java.util.Scanner;

public class Pattern
{
   public static void main(String[] args)
   {
      Scanner sc = new Scanner(System.in);
      System.out.print("Enter number of rows: ");

      int rows = sc.nextInt();
      for (int i = 1; i <= rows; i++)
      {
         for (int j = 1; j <= i; j++)
         {
            if(j%2 == 0)
            {
               System.out.print(0);
            }
            else
            {
               System.out.print(1);
            }
         }
         System.out.println();
      }
      sc.close();
   }
}
```