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PG-DAC

Assignment 4

Q1)

```
import java.util.*;
class Loop{
    public static void main(String[] args) {
        for(int i = 10;i<=110;i++)
            System.out.print(i+" ");
    }
}
```

```
10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 3
8 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66
67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94
95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110
D:\CDAC Hyderabad\JAVA\Assignment 04>
```

Q2)

```
1 import java.util.*;
2
3 class SumNum{
4
5 public static void main(String[] args) {
6
7 int sum=0;
8
9 for(int i=1;i<=100;i++)
10
11 sum+=i;
12
13 System.out.println(sum);
14
15 }
16
17 }
```

```
D:\CDAC Hyderabad\JAVA\Assignment 04>java SumNum.java
5050
```

Q3)

```
1 import java.util.*;
2
3 class Tables{
4
5 public static void main(String[] args) {
6
7 Scanner sc = new Scanner(System.in);
8     System.out.print("Enter a number for multiplication table: ");
9     int num = sc.nextInt();
10    System.out.println("Multiplication Table of " + num + ":");
11    for (int i = 1; i <= 10; i++) {
12        System.out.println(num + " x " + i + " = " + (num * i));
13    }
14    System.out.println();
15 }
16
17 }
```

```
Enter a number for multiplication table: 71
Multiplication Table of 71:
71 x 1 = 71
71 x 2 = 142
71 x 3 = 213
71 x 4 = 284
71 x 5 = 355
71 x 6 = 426
71 x 7 = 497
71 x 8 = 568
71 x 9 = 639
71 x 10 = 710
```

D:\CDAC Hyderabad\JAVA\Assignment Q1>

Q4)

```
1 import java.util.*;
2
3 class Facto{
4
5 public static void main(String[] args) {
6
7 Scanner sc = new Scanner(System.in);
8     System.out.print("Enter a number to find factorial: ");
9     int factNum = sc.nextInt();
10    long fact = 1;
11    for (int i = 1; i <= factNum; i++) {
12        fact *= i;
13    }
14    System.out.println("Factorial of " + factNum + " is " + fact + "\n");
15
16 }
17
18 }
19
20
```

```
D:\CDAC Hyderabad\JAVA\Assignment 04>java Facto.java
Enter a number to find factorial: 7
Factorial of 7 is 5040
```

Q5)

```
1 import java.util.Scanner;
2 class PrimeCheck {
3     public static void main(String[] args) {
4         Scanner sc = new Scanner(System.in);
5         System.out.println("Enter number to check prime:");
6         int num = sc.nextInt();
7         boolean prime = num > 1;
8         for(int i = 2; i*i <= num; i++) {
9             if(num % i == 0) {
10                 prime = false;
11                 break;
12             }
13         }
14         System.out.println(prime ? "Prime" : "Not Prime");
15     }
16 }
17
```

Enter number to check prime:

56

Not Prime

D:\CDAC Hyderabad\JAVA\Assignment 04>java PrimeCheck

Enter number to check prime:

79

Prime

Q6)

```
1 import java.util.Scanner;
2 class Fibo {
3     public static void main(String[] args) {
4         Scanner sc = new Scanner(System.in);
5         System.out.println("Enter number of Fibonacci terms:");
6         int terms = sc.nextInt();
7         int a = 0, b = 1;
8         for(int i = 0; i < terms; i++) {
9             System.out.print(a + " ");
10            int c = a + b;
11            a = b;
12            b = c;
13        }
14    }
15 }
16
```

```
D:\CDAC Hyderabad\JAVA\Assignment 04>java Fibo.java
Enter number of Fibonacci terms:
9
0 1 1 2 3 5 8 13 21
D:\CDAC Hyderabad\JAVA\Assignment 04>java Fibo.java
Enter number of Fibonacci terms:
15
0 1 1 2 3 5 8 13 21 34 55 89 144 233 377
D:\CDAC Hyderabad\JAVA\Assignment 04>
```

Q7)

```
1 import java.util.Scanner;
2 class DigitSum {
3     public static void main(String[] args) {
4         Scanner sc = new Scanner(System.in);
5         System.out.println("Enter number to sum digits:");
6         int n = sc.nextInt();
7         int sum = 0, temp = n;
8         while(temp != 0) {
9             sum += temp % 10;
10            temp /= 10;
11        }
12        System.out.println("Sum of digits: " + sum);
13    }
14 }
15
```

```
D:\CDAC Hyderabad\JAVA\Assignment 04>java DigitSum.java
Enter number to sum digits:
456
Sum of digits: 15
```

```
D:\CDAC Hyderabad\JAVA\Assignment 04>java DigitSum.java
Enter number to sum digits:
534
Sum of digits: 12
```

```
D:\CDAC Hyderabad\JAVA\Assignment 04>
```

Q8)

```
1 import java.util.Scanner;
2 class Palindrome {
3     public static void main(String[] args) {
4         Scanner sc = new Scanner(System.in);
5         System.out.println("Enter number to check palindrome:");
6         int num = sc.nextInt();
7         int rev = 0, original = num;
8         while(num != 0) {
9             rev = rev * 10 + num % 10;
10            num /= 10;
11        }
12        System.out.println(rev == original ? "Palindrome" : "Not Palindrome");
13    }
14 }
15
```

```
D:\CDAC Hyderabad\JAVA\Assignment 04>java Palindrome.java
Enter number to check palindrome:
3456
Not Palindrome
```

```
D:\CDAC Hyderabad\JAVA\Assignment 04>java Palindrome.java
Enter number to check palindrome:
1111
Palindrome
```

```
D:\CDAC Hyderabad\JAVA\Assignment 04>
```

Q9)

```
1 class SumOdd {
2     public static void main(String[] args) {
3         int sum = 0;
4         for(int i = 1; i <= 50; i += 2) sum += i;
5         System.out.println("Sum of odd numbers 1-50: " + sum);
6     }
7 }
8
```

```
D:\CDAC Hyderabad\JAVA\Assignment 04>java SumOdd.java
Sum of odd numbers 1-50: 625
```

```
D:\CDAC Hyderabad\JAVA\Assignment 04>
```

```
1 ▼ class SumEven {
2 ▼   public static void main(String[] args) {
3     int sum = 0;
4     for(int i = 2; i <= 50; i += 2) sum += i;
5     System.out.println("Sum of even numbers 1-50: " + sum);
6   }
7 }
8 }
```

```
D:\CDAC Hyderabad\JAVA\Assignment 04>java SumEven.java
Sum of even numbers 1-50: 650
```

```
D:\CDAC Hyderabad\JAVA\Assignment 04>
```

Q12)

```
1 import java.util.Scanner;
2 class Armstrong {
3     public static void main(String[] args) {
4         Scanner sc = new Scanner(System.in);
5         System.out.println("Enter number to check Armstrong:");
6         int n = sc.nextInt(), sum = 0, original = n;
7         int digits = String.valueOf(n).length();
8         while(n != 0) {
9             int d = n % 10;
10            sum += Math.pow(d, digits);
11            n /= 10;
12        }
13        System.out.println(sum == original ? "Armstrong" : "Not Armstrong");
14    }
15}
16
```

```
D:\CDAC Hyderabad\JAVA\Assignment 04>java Armstrong.java
Enter number to check Armstrong:
435
Not Armstrong
```

```
D:\CDAC Hyderabad\JAVA\Assignment 04>java Armstrong.java
Enter number to check Armstrong:
153
Armstrong
```

Q13)

```
1 import java.util.Scanner;
2 class ReverseNumber {
3     public static void main(String[] args) {
4         Scanner sc = new Scanner(System.in);
5         System.out.println("Enter number to reverse:");
6         int n = sc.nextInt(), rev = 0;
7         while(n != 0) {
8             rev = rev * 10 + n % 10;
9             n /= 10;
10        }
11    System.out.println("Reversed: " + rev);
12  }
13 }
14
```

```
D:\CDAC Hyderabad\JAVA\Assignment 04>java ReverseNumber.java
Enter number to reverse:
4567
Reversed: 7654

D:\CDAC Hyderabad\JAVA\Assignment 04>
```

Q13)

```
1 import java.util.Scanner;
2 class PowerLoop {
3     public static void main(String[] args) {
4         Scanner sc = new Scanner(System.in);
5         System.out.println("Enter base and exponent:");
6         int base = sc.nextInt(), exp = sc.nextInt(), result = 1;
7         for(int i = 0; i < exp; i++) result *= base;
8         System.out.println("Power: " + result);
9     }
10 }
11
```

```
D:\CDAC Hyderabad\JAVA\Assignment 04>java PowerLoop.java
Enter base and exponent:
4
3
Power: 64
D:\CDAC Hyderabad\JAVA\Assignment 04>
```

Q14)

```
1 import java.util.Scanner;
2 class GCD {
3     public static void main(String[] args) {
4         Scanner sc = new Scanner(System.in);
5         System.out.println("Enter two numbers for GCD:");
6         int x = sc.nextInt(), y = sc.nextInt();
7         while(y != 0) {
8             int temp = y;
9             y = x % y;
10            x = temp;
11        }
12    System.out.println("GCD: " + x);
13 }
14 }
15 }
```

```
D:\CDAC Hyderabad\JAVA\Assignment 04>java GCD.java
Enter two numbers for GCD:
34
44
GCD: 2
```

Q16)

```
class Loop {  
    public static void main(String[] args) {  
        char ch;  
        for (ch = 'a'; ch <= 'z'; ch++) {  
            System.out.print(ch + " = " + (int) ch + " ");  
        }  
    }  
}
```

```
D:\CDAC Hyderabad\JAVA\Assignment 04>java GCD.java  
Enter two numbers for GCD:  
34  
44  
GCD: 2
```

Q17)

```
1 import java.util.Scanner;
2 class StrPalindrome {
3     public static void main(String[] args) {
4         Scanner sc = new Scanner(System.in);
5         System.out.println("Enter string to check palindrome:");
6         String str = sc.next(), rev = "";
7         for(int i = str.length()-1; i >= 0; i--) rev += str.charAt(i);
8         System.out.println(str.equals(rev) ? "Palindrome" : "Not Palindrome");
9     }
10 }
11 }
```

```
D:\CDAC Hyderabad\JAVA\Assignment 04>java StrPalindrome.java
Enter string to check palindrome:
hello I am Yash
Not Palindrome
```

```
D:\CDAC Hyderabad\JAVA\Assignment 04>java StrPalindrome.java
Enter string to check palindrome:
I am Power
Palindrome
```

Q18)

```
1 ▼ class AsciiLowercase {  
2 ▼   public static void main(String[] args) {  
3 ▼     for(char c = 'a'; c <= 'z'; c++) {  
4       System.out.println(c + " = " + (int)c);  
5     }  
6   }  
7 }  
8 |
```

```
D:\CDAC Hyderabad\JAVA\Assignment 04>java AsciiLowercase.java  
a = 97  
b = 98  
c = 99  
d = 100  
e = 101  
f = 102  
g = 103  
h = 104  
i = 105  
j = 106  
k = 107  
l = 108  
m = 109  
n = 110  
o = 111  
p = 112  
q = 113  
r = 114  
s = 115  
t = 116  
u = 117  
v = 118  
w = 119  
x = 120  
y = 121  
z = 122
```

Q19)

```
import java.util.Scanner;
class AverageList {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter count of numbers:");
        int n = sc.nextInt();
        double sum = 0;
        for(int i = 0; i < n; i++) {
            sum += sc.nextDouble();
        }
        System.out.println("Average: " + (sum/n));
    }
}
```

```
D:\CDAC Hyderabad\JAVA\Assignment 04>java AverageList.java
Enter count of numbers:
5
1
2
3
4
5
Average: 3.0
```

Q20)

```
1 import java.util.Scanner;
2 class LeapYear {
3     public static void main(String[] args) {
4         Scanner sc = new Scanner(System.in);
5         System.out.println("Enter year:");
6         int year = sc.nextInt();
7         boolean leap = (year % 400 == 0) || (year % 4 == 0 && year % 100 != 0);
8         System.out.println(leap ? "Leap Year" : "Not Leap Year");
9     }
10 }
11
```

```
D:\CDAC Hyderabad\JAVA\Assignment 04>java LeapYear.java
Enter year:
2024
Leap Year
```

```
D:\CDAC Hyderabad\JAVA\Assignment 04>java LeapYear.java
Enter year:
2025
Not Leap Year
```

Q21)

```
1 class ReverseNatural {
2     public static void main(String[] args) {
3         for(int i = 10; i >= 1; i--) {
4             System.out.print(i + " ");
5         }
6     }
7 }
8 |
```

```
D:\CDAC Hyderabad\JAVA\Assignment 04>java ReverseNatural.java
10 9 8 7 6 5 4 3 2 1
D:\CDAC Hyderabad\JAVA\Assignment 04>
```

Q22)

```
1 class SumNatural50 {
2     public static void main(String[] args) {
3         int sum = 0;
4         for(int i = 1; i <= 50; i++) sum += i;
5         System.out.println("Sum: " + sum);
6     }
7 }
8
```

```
D:\CDAC Hyderabad\JAVA\Assignment 04>java SumNatural50.java
Sum: 1275
```

```
D:\CDAC Hyderabad\JAVA\Assignment 04>
```

Q23)

```
1 class Factorials1to10 {
2     public static void main(String[] args) {
3         for(int n = 1; n <= 10; n++) {
4             int fact = 1;
5             for(int i = 1; i <= n; i++) fact *= i;
6             System.out.println("Factorial of " + n + " = " + fact);
7         }
8     }
9 }
10
```

```
D:\CDAC Hyderabad\JAVA\Assignment 04>java Factorials10.java
Factorial of 1 = 1
Factorial of 2 = 2
Factorial of 3 = 6
Factorial of 4 = 24
Factorial of 5 = 120
Factorial of 6 = 720
Factorial of 7 = 5040
Factorial of 8 = 40320
Factorial of 9 = 362880
Factorial of 10 = 3628800
```

Q24)

```
1 import java.util.Scanner;
2 class StringPalindromeLoop {
3     public static void main(String[] args) {
4         Scanner sc = new Scanner(System.in);
5         System.out.println("Enter string:");
6         String str = sc.next();
7         int i = 0, j = str.length() - 1;
8         boolean pal = true;
9         while(i < j) {
10             if(str.charAt(i) != str.charAt(j)) {
11                 pal = false;
12                 break;
13             }
14             i++;
15             j--;
16         }
17         System.out.println(pal ? "Palindrome" : "Not Palindrome");
18     }
19 }
20
```

```
D:\CDAC Hyderabad\JAVA\Assignment 04>java StringPalindromeLoop.java
Enter string:
h h h h
Palindrome
```

```
D:\CDAC Hyderabad\JAVA\Assignment 04>java StringPalindromeLoop.java
Enter string:
rose water
Not Palindrome
```

```
D:\CDAC Hyderabad\JAVA\Assignment 04>
```

Q25)

```
1 class SumSquares {
2     public static void main(String[] args) {
3         int sum = 0;
4         for(int i = 1; i <= 10; i++) sum += i*i;
5         System.out.println("Sum of squares 1-10: " + sum);
6     }
7 }
8
```

```
D:\CDAC Hyderabad\JAVA\Assignment 04>java SumSquares.java
Sum of squares 1-10: 385
```

Q26)

```
1 class EvenNumbers100 {
2     public static void main(String[] args) {
3         for(int i = 2; i <= 100; i += 2) {
4             System.out.print(i + " ");
5         }
6     }
7 }
```

```
D:\CDAC Hyderabad\JAVA\Assignment 04>java EvenNumbers100.java
2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72 74 76 78 80 82 8
4 86 88 90 92 94 96 98 100
```

Q27)

```
1 class SumOdd50 {
2     public static void main(String[] args) {
3         int sum = 0;
4         for(int i = 1; i <= 50; i += 2) sum += i;
5         System.out.println("Sum of odd numbers 1-50: " + sum);
6     }
7 }
8
```

```
D:\CDAC Hyderabad\JAVA\Assignment 04>java SumOdd.java
Sum of odd numbers 1-50: 625
```

```
D:\CDAC Hyderabad\JAVA\Assignment 04>
```

Q28)

```
1 import java.util.Scanner;
2 class PerfectNumber {
3     public static void main(String[] args) {
4         Scanner sc = new Scanner(System.in);
5         System.out.println("Enter number:");
6         int n = sc.nextInt(), sum = 0;
7         for(int i = 1; i < n; i++) if(n % i == 0) sum += i;
8         System.out.println(sum == n ? "Perfect Number" : "Not Perfect Number");
9     }
10 }
11
```

```
D:\CDAC Hyderabad\JAVA\Assignment 04>java PerfectNumber.java
```

```
Enter number:
```

```
7
```

```
Not Perfect Number
```

```
D:\CDAC Hyderabad\JAVA\Assignment 04>java PerfectNumber.java
```

```
Enter number:
```

```
6
```

Q29)

```
1 class AsciiUppercase {
2     public static void main(String[] args) {
3         for(char c = 'A'; c <= 'Z'; c++) {
4             System.out.println(c + " = " + (int)c);
5         }
6     }
7 }
8
```

```
D:\CDAC Hyderabad\JAVA\Assignment 04>java AsciiUppercase.java
```

```
A = 65
B = 66
C = 67
D = 68
E = 69
F = 70
G = 71
H = 72
I = 73
J = 74
K = 75
L = 76
M = 77
N = 78
O = 79
P = 80
Q = 81
R = 82
S = 83
T = 84
U = 85
V = 86
W = 87
X = 88
Y = 89
Z = 90
```

Q30)

```
1 import java.util.Scanner;
2 class ProductDigit {
3     public static void main(String[] args) {
4         Scanner sc = new Scanner(System.in);
5         System.out.println("Enter number:");
6         int n = sc.nextInt(), product = 1;
7         while(n != 0) {
8             product *= n % 10;
9             n /= 10;
10        }
11    }
12 }
13 }
14 }
```

Enter number:

34

Product: 12

D:\CDAC Hyderabad\JAVA\Assignment 04>

Q31)

```
1 import java.util.Scanner;
2 class StrongNumber {
3     static int fact(int n) {
4         int f = 1;
5         for(int i = 1; i <= n; i++) f *= i;
6         return f;
7     }
8     public static void main(String[] args) {
9         Scanner sc = new Scanner(System.in);
10        System.out.println("Enter number:");
11        int n = sc.nextInt(), sum = 0, temp = n;
12        while(temp != 0) {
13            sum += fact(temp % 10);
14            temp /= 10;
15        }
16        System.out.println(sum == n ? "Strong Number" : "Not Strong Number");
17    }
18 }
19 }
```

D:\CDAC Hyderabad\JAVA\Assignment 04>java StrongNumber.java

Enter number:

345

Not Strong Number

D:\CDAC Hyderabad\JAVA\Assignment 04>java StrongNumber.java

Enter number:

145

Strong Number

Q32)

```
1 class SumCubes {
2     public static void main(String[] args) {
3         int sum = 0;
4         for(int i = 1; i <= 10; i++) sum += i*i*i;
5         System.out.println("Sum of cubes 1-10: " + sum);
6     }
7 }
8
```

```
D:\CDAC Hyderabad\JAVA\Assignment 04>java SumCubes.java
Sum of cubes 1-10: 3025
```

```
D:\CDAC Hyderabad\JAVA\Assignment 04>
```

Q33)

```
1 ▼ class SumPrime100 {
2 ▼     static boolean isPrime(int n) {
3         if(n < 2) return false;
4         for(int i = 2; i*i <= n; i++) if(n % i == 0) return false;
5         return true;
6     }
7 ▼     public static void main(String[] args) {
8         int sum = 0;
9         for(int i = 2; i <= 100; i++) if(isPrime(i)) sum += i;
10        System.out.println("Sum of primes 1-100: " + sum);
11    }
12 }
13
```

```
D:\CDAC Hyderabad\JAVA\Assignment 04>java SumPrime100.java
Sum of primes 1-100: 1060
```

Q34)

```
1 import java.util.Scanner;
2 class PangramCheck {
3     public static void main(String[] args) {
4         Scanner sc = new Scanner(System.in);
5         System.out.println("Enter string:");
6         String str = sc.nextLine().toLowerCase();
7         boolean[] seen = new boolean[26];
8         for(char c : str.toCharArray()) {
9             if(c >= 'a' && c <= 'z') seen[c - 'a'] = true;
10        }
11        boolean pangram = true;
12        for(boolean b : seen) if(!b) { pangram = false; break; }
13        System.out.println(pangram ? "Pangram" : "Not Pangram");
14    }
15 }
16
```

```
D:\CDAC Hyderabad\JAVA\Assignment 04>java PangramCheck.java
Enter string:
hello how ARE YOU
Not Pangram
```

```
D:\CDAC Hyderabad\JAVA\Assignment 04>java PangramCheck.java
Enter string:
abcdefghijklmnopqrstuvwxyz
Pangram
```

```
D:\CDAC Hyderabad\JAVA\Assignment 04>
```

Q35)

```
class Factorials10 {
    public static void main(String[] args) {
        for(int n = 1; n <= 10; n++) {
            int fact = 1;
            for(int i = 1; i <= n; i++) fact *= i;
            System.out.println("Factorial of " + n + " = " + fact);
        }
    }
}
```

```
D:\CDAC Hyderabad\JAVA\Assignment 04>java Factorials10.java
Factorial of 1 = 1
Factorial of 2 = 2
Factorial of 3 = 6
Factorial of 4 = 24
Factorial of 5 = 120
Factorial of 6 = 720
Factorial of 7 = 5040
Factorial of 8 = 40320
Factorial of 9 = 362880
Factorial of 10 = 3628800
```

Q36)

```
1 class OddNumbers100 {
2     public static void main(String[] args) {
3         for(int i = 1; i <= 100; i += 2) {
4             System.out.print(i + " ");
5         }
6     }
7 }
8 }
```

```
D:\CDAC Hyderabad\JAVA\Assignment 04>java OddNumbers100.java
1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 37 39 41 43 45 47 49 51 53 55 57 59 61 63 65 67 69 71 73 75 77 79 81 83
85 87 89 91 93 95 97 99
```

Q37)

```
1 import java.util.Scanner;
2 class PerfectSquare {
3     public static void main(String[] args) {
4         Scanner sc = new Scanner(System.in);
5         System.out.println("Enter number:");
6         int n = sc.nextInt();
7         int sqrt = (int) Math.sqrt(n);
8         System.out.println(sqrt*sqrt == n ? "Perfect Square" : "Not Perfect Square");
9     }
10 }
11 }
```

```
D:\CDAC Hyderabad\JAVA\Assignment 04>java PerfectSquare.java
Enter number:
345
Not Perfect Square
```

```
D:\CDAC Hyderabad\JAVA\Assignment 04>java PerfectSquare.java
Enter number:
4
Perfect Square
```

Q37)

```
import java.util.Scanner;
class SumSingle {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter number:");
        int n = sc.nextInt();
        while(n >= 10) {
            int sum = 0;
            while(n != 0) {
                sum += n % 10;
                n /= 10;
            }
            n = sum;
        }
        System.out.println("Single digit sum: " + n);
    }
}
```

```
D:\CDAC Hyderabad\JAVA\Assignment 04>java SumSingle.java
Enter number:
234
Single digit sum: 9
```

Q38)

```
public class Loop {  
  
    public static void main(String[] args) {  
        for (int i=1;i<=6;i++ ){  
            for(int j=1;j<=9;j++){  
                System.out.print(" * ");  
            }  
            System.out.println();  
  
        }  
    }  
}
```

```
C:\Users\KULDE\OneDrive\Desktop\Java>javac Loop.java
```

```
C:\Users\KULDE\OneDrive\Desktop\Java>java Loop
```

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

```
public class Loop {  
  
    public static void main(String[] args) {  
        for (int i=1;i<=6;i++){  
            for(int j=1;j<=6;j++){  
                System.out.print(" * ");  
            }  
            System.out.println();  
        }  
    }  
}
```

```
C:\Users\KULDE\OneDrive\Desktop\Java>javac Loop.java
```

```
C:\Users\KULDE\OneDrive\Desktop\Java>java Loop
```

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

Q39)

```
public class Loop{  
  
    public static void main(String[] args) {  
        for (int i=1;i<=6;i++ ){  
            for(int j=1;j<=i;j++){  
                System.out.print(" * ");  
            }  
            System.out.println();  
        }  
    }  
}
```

```
C:\Users\KULDE\OneDrive\Desktop\Java>javac Loop.java
```

```
C:\Users\KULDE\OneDrive\Desktop\Java>java Loop
```

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

Q40)

```
public class Loop{  
  
    public static void main(String[] args) {  
        for (int i=6;i>=1;i-- ){  
            for(int j=1;j<=i;j++){  
                System.out.print(" * ");  
            }  
            System.out.println();  
        }  
    }  
}
```

```
C:\Users\KULDE\OneDrive\Desktop\Java>javac Loop.java
```

```
C:\Users\KULDE\OneDrive\Desktop\Java>java Loop
```

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

Q41)

```
public class Loop{  
  
    public static void main(String[] args) {  
        for (int i=1;i<=6;i++ ){  
            for(int j=1;j<=i;j++){  
                System.out.print(" * ");  
            }  
            System.out.println();  
  
        }  
        for (int z=6;z>=1;z-- ){  
            for(int x=1;x<=z;x++){  
                System.out.print(" * ");  
            }  
            System.out.println();  
        }  
    }  
}
```

```
C:\Users\KULDE\OneDrive\Desktop\Java>javac Loop.java
```

```
C:\Users\KULDE\OneDrive\Desktop\Java>java Loop
```

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

Q42)

```
public class Loop {  
  
    public static void main(String[] args) {  
        int n = 5;  
        for (int i = 1; i <= n; i++) {  
            for (int j = 1; j <= n - i; j++)  
                System.out.print(" ");  
            for (int j = 1; j <= 2 * i - 1; j++)  
                System.out.print("*");  
            System.out.println();  
        }  
    }  
}
```

```
C:\Users\KULDE\OneDrive\Desktop\Java>javac Loop.java
```

```
C:\Users\KULDE\OneDrive\Desktop\Java>java Loop
```

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

Q43)

```
public class Loop {  
  
    public static void main(String[] args) {  
        int n = 5;  
        for (int i = n - 1; i >= 1; i--) {  
            for (int j = 1; j <= n - i; j++)  
                System.out.print(" ");  
            for (int j = 1; j <= 2 * i - 1; j++)  
                System.out.print("*");  
            System.out.println();  
        }  
    }  
}
```

```
C:\Users\KULDE\OneDrive\Desktop\Java>java Loop  
*****  
****  
***  
*
```

Q44)

```
public class Loop {  
    public static void main(String[] args) {  
        int n = 5;  
        for (int i = 1; i <= n; i++) {  
            for (int j = 1; j <= n - i; j++)  
                System.out.print(" ");  
            for (int j = 1; j <= 2 * i - 1; j++)  
                System.out.print("*");  
            System.out.println();  
        }  
        for (int i = n - 1; i >= 1; i--) {  
            for (int j = 1; j <= n - i; j++)  
                System.out.print(" ");  
            for (int j = 1; j <= 2 * i - 1; j++)  
                System.out.print("*");  
            System.out.println();  
        }  
    }  
}
```

```
C:\Users\KULDE\OneDrive\Desktop\Java>java Loop
```

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

```
public class Loop{
    public static void main(String[] args) {
        int n = 5;

        for (int i = 1; i <= n; i++) {
            for (int j = 1; j <= n; j++) {
                // print star at border, space inside
                if (i == 1 || i == n || j == 1 || j == n)
                    System.out.print("* ");
                else
                    System.out.print("  ");
            }
            System.out.println();
        }
    }
}
```

```
C:\Users\KULDE\OneDrive\Desktop\Java>java Loop
* * * * *
*
*
*
*
*
* * * * *

C:\Users\KULDE\OneDrive\Desktop\Java>
```

```
public class Loop {
    public static void main(String[] args) {
        int n = 5;
        for (int i = 1; i <= n; i++) {
            for (int j = 1; j <= n - i; j++)
                System.out.print(" ");
            for (int j = 1; j <= 2 * i - 1; j++)
                if (j == 1 || j == 2 * i - 1)
                    System.out.print("*");
                else
                    System.out.print(" ");
            System.out.println();
        }
        for (int i = n - 1; i >= 1; i--) {
            for (int j = 1; j <= n - i; j++)
                System.out.print(" ");
            for (int j = 1; j <= 2 * i - 1; j++)
                if (j == 1 || j == 2 * i - 1)
                    System.out.print("*");
                else
                    System.out.print(" ");
            System.out.println();
        }
    }
}
```

```
C:\Users\KULDE\OneDrive\Desktop\Java>java Loop
```

```

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

