

1. Write a program to print the numbers from 10 to 50 using for loop/while loop.

```
3 public class HelloWorld {
5     public static void main(String[] args) {
48         System.out.print("Enter a number: ");
49         int num = scanner.nextInt();
50         // Variable to store the reversed number
51         int reversedNum = 0;
52         // Loop to reverse the number
53         while (num != 0) {
54             // Get the last digit of the number
55             int lastDigit = num % 10;
56
57             // Add the last digit to the reversed number
58             reversedNum = reversedNum * 10 + lastDigit;
59
60             // Remove the last digit from the number
61             num = num / 10;
62         }
63         // Print the reversed number
64         System.out.println("Reversed number: " + reversedNum);
65         // Close the scanner
66         scanner.close();

```

Run HelloWorld x

"C:\Program Files\Java\jdk-23\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.3.4\lib\idea_rt.jar=49330" -Dfile.encoding=UTF-8 -Dsun.jvm.encoding=UTF-8

Enter a number: 876
Reversed number: 678

Process finished with exit code 0

```
1 public class Main {
2     public static void main(String[] args) {
10         //
11         //     z = i;
12         //     } e {
13         //     z = j;
14         //     }
15         //     System.out.println(z);
16         //     }
17         // type casting
18         int counter = 50;
19
20         while (counter > 9) { // 0 > 0
21             System.out.println(counter);
22             counter = counter - 1;
23         }
24
25     }
26 }

```

Output:

```
50
49
48
47
46
45
44
43
42
41
40
39
38
37
36
35
34
33
32
31
30
29
28
27
26
25
24
23
22
21

```

```
21
20
19
18
17
16
15
14
13
12
11
10
Process finished with exit code 0
```

2. Write a program that find a given number is negative or positive.

Input-123

Output-Positive

Input-100

Output- Negative

Output- positive

```
1 public class HelloWorld {
5     public static void main(String[] args) {
27
28         Scanner scanner = new Scanner(System.in);
29
30         // Taking input from the user
31         System.out.print("Enter a number: ");
32         int number = scanner.nextInt();
33
34         // Checking if the number is positive or negative
35         if (number >= 0) {
36             System.out.println("Positive");
37         } else {
38             System.out.println("Negative");
39         }
40
41         scanner.close();
42     }
43
44
45 }
```

Run HelloWorld x

"C:\Program Files\Java\jdk-23\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.3.4\lib\idea_rt.jar=59800" -Dfile.encoding=UTF-8 -Dsun.s

Enter a number: 123
Positive

Process finished with exit code 0

Output-Negative

```
3 public class HelloWorld {
5     public static void main(String[] args) {
13         // System.out.println(); // New line after each row
14         //
15         //
16         Scanner scanner = new Scanner(System.in);
17
18         // Taking input from the user
19         System.out.print("Enter a number: ");
20         int number = scanner.nextInt();
21
22         // Checking if the number is positive or negative
23         if (number >= 0) {
24             System.out.println("Positive");
25         } else {
26             System.out.println("Negative");
27         }
28
29         scanner.close();
30
31     }
}
```

Run HelloWorld x

"C:\Program Files\Java\jdk-23\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.3.4\lib\idea_rt.jar=65051" -Dfile.encoding=UTF-8 -Dsun.s

Enter a number: -100
Negative

Process finished with exit code 0

3. Write down the program to reverse the given number using loops.

Input-876

Output=678

```
3 public class HelloWorld {
5     public static void main(String[] args) {
48         System.out.print("Enter a number: ");
49         int num = scanner.nextInt();
50         // Variable to store the reversed number
51         int reversedNum = 0;
52         // Loop to reverse the number
53         while (num != 0) {
54             // Get the last digit of the number
55             int lastDigit = num % 10;
56
57             // Add the last digit to the reversed number
58             reversedNum = reversedNum * 10 + lastDigit;
59
60             // Remove the last digit from the number
61             num = num / 10;
62         }
63         // Print the reversed number
64         System.out.println("Reversed number: " + reversedNum);
65         // Close the scanner
66         scanner.close();
}
```

Run HelloWorld x

"C:\Program Files\Java\jdk-23\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.3.4\lib\idea_rt.jar=49330" -Dfile.encoding=UTF-8 -Dsun.s

Enter a number: 876
Reversed number: 678

Process finished with exit code 0

4. Write a java program to Find the smallest number among three numbers.

```
5 public class HelloWorld {
6     public static void main(String[] args) {
7         Scanner scanner = new Scanner(System.in);
8         // Prompt the user to enter three numbers
9         System.out.print("Enter the first number: ");
10        int num1 = scanner.nextInt();
11        System.out.print("Enter the second number: ");
12        int num2 = scanner.nextInt();
13        System.out.print("Enter the third number: ");
14        int num3 = scanner.nextInt();
15        // Initialize the smallest number to be num1
16        int smallest = num1;
17        // Compare with the second number
18        if (num2 < smallest) {
19            smallest = num2;
20        }
21        if (num3 < smallest) {
22            smallest = num3;
23        }
24        System.out.println("The smallest number is: " + smallest);
25        scanner.close();
26    }
27 }
```

Run HelloWorld x

```
"C:\Program Files\Java\jdk-23\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.3.4\lib\idea_rt.jar=49927" -Dfile.encoding=UTF-8 -Dsun.s
Enter the first number: 2
Enter the second number: 4
Enter the third number: 9
The smallest number is: 2
Process finished with exit code 0
```

5. Write a Java program that takes the purchase amount as input and calculates the final payable amount after applying the discount.

1. If the purchase amount is less than 500, no discount is applied.
2. If the purchase amount is between 500 and 1000, a 10% discount is applied.
3. If the purchase amount is greater than 1000 a 20% discount is applied.

```
3 public class HelloWorld {
4     public static void main(String[] args) {
5
6
7
8
9
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
38
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
```

```
        // Create a Scanner object to get input from the user
        Scanner scanner = new Scanner(System.in);
        // Prompt the user to enter the purchase amount
        System.out.print("Enter the purchase amount: ");
        double purchaseAmount = scanner.nextDouble();
        // Initialize the discount variable
        double discount = 0;
        // Apply the appropriate discount based on the purchase amount
        if (purchaseAmount < 500) {
            // No discount if amount is less than 500
            discount = 0;
        } else if (purchaseAmount >= 500 && purchaseAmount <= 1000) {
            // 10% discount if amount is between 500 and 1000
            discount = 0.10;
        } else if (purchaseAmount > 1000) {
            // 20% discount if amount is greater than 1000
            discount = 0.20;
        }
        // Calculate the final payable amount after discount
        double discountAmount = purchaseAmount * discount;
        double finalAmount = purchaseAmount - discountAmount;
        // Output the final payable amount after discount
        System.out.println("The discount applied is: " + (discount * 100) + "%");
        System.out.println("The final payable amount is: " + finalAmount);
        // Close the scanner
        scanner.close();
    }
}
```

Output

```
"C:\Program Files\Java\jdk-23\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.3.4\lib\idea_rt.jar=50151" -Dfile.encoding=UTF-8 -Dsun.s
Enter the purchase amount: 789
The discount applied is: 10.0%
The final payable amount is: 710.1

Process finished with exit code 0
|
```

6

```
1 public class HelloWorld {
3     public static void main(String[] args) {
11         //
12         //
13         //
14         //
15         //
16         //
17         int i, j, k = 5; // k is given as 5
18
19         for (i = 0; i < k; i++) { // Loop for rows
20             for (j = 0; j < k; j++) { // Loop for columns
21                 System.out.print(Math.max(k - i, k - j)); // Printing numbers
22             }
23             System.out.println(); // New line after each row
24         }
25
26
27
28
29
--
Run HelloWorld x
C:\Program Files\Java\jdk-23\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.3.4\lib\idea_rt.jar=59747" -Dfile.encoding=UTF-8 -Dsun.s
55555
54444
54333
54322
54321
Process finished with exit code 0
```