



STRATHMORE INSTITUTE

DIPLOMA IN INFORMATION TECHNOLOGY EC

Introduction to Programming

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1. Question 1

-Block Statements.

The screenshot shows the IntelliJ IDEA interface with the following details:

- Project View:** Shows a project named "HelloWorld" with a "src" directory containing files like "Inference.java", "BlockStatements.java", "HeightCheck.java", "DayofWeek.java", "WhileLoop.java", "DoWhileLoop.java", "ForLoop.java", "JavaCircumference.java", "JavaDataTypes.java", "JavaEscapeCharacters.java", "Main.java", and "WhileLoop.java".
- Code Editor:** The "BlockStatements.java" file is open, displaying the following code:

```
public class BlockStatements {
    public static void main(String[] args) {
        int studentNumber = 123456;
        int otherNumber = 50;

        int sum = studentNumber + otherNumber;

        System.out.println("Sum inside block: " + sum);
    }
}
```
- Run Tab:** Shows the output of running the "BlockStatements" class:

```
"C:\Program Files\Java\jdk-25\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA 2025.3.1.1\lib\idea_rt.jar=53731" -Dfile.encoding=UTF-8
Sum inside block: 123506
Process finished with exit code 0
```
- Status Bar:** Shows "10:6 CRLF UTF-8 4 spaces" at the bottom.

2. Question 2

- If statement

The screenshot shows the IntelliJ IDEA interface with the project 'HelloWorld' open. The 'IfStatement.java' file is the active file, displaying the following Java code:

```
1 > /.../
2
3 import java.util.Scanner;
4
5
6 public class IfStatement {
7     public static void main(String[] args) {
8         Scanner input = new Scanner(System.in);
9         double height = input.nextDouble();
10        if (height >= (double)6.0F) {
11            System.out.println("Tall");
12        } else if (height >= 5.7) {
13            System.out.println("Average");
14        } else {
15            System.out.println("Short");
16        }
17    }
18}
```

The 'Run' tool window at the bottom shows the execution results:

```
"C:\Program Files\Java\jdk-25\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA 2025.3.1.1\lib\idea_rt.jar=49283" -Dfile.encoding=UTF-8
Enter your height in feet (example 5.8): 6
Tall

Process finished with exit code 0
```

At the bottom right, the status bar shows: 14:40 CRLF UTF-8 4 spaces.

3. Question 3

- Switch Statements

The screenshot shows the IntelliJ IDEA interface with the project 'HelloWorld' open. The 'DayofWeek.java' file is the active file, displaying the following Java code:

```
1 import java.util.Scanner;
2
3 public class DayofWeek {
4     public static void main(String[] args) {
5         Scanner input = new Scanner(System.in);
6         System.out.print("Enter number (1-7): ");
7         int day = input.nextInt();
8
9         switch(day) {
10             case 1:
11                 System.out.println("Monday");
12                 break;
13
14             case 2:
15                 System.out.println("Tuesday");
16                 break;
17
18             case 3:
19                 System.out.println("Wednesday");
20                 break;
21
22             case 4:
23                 System.out.println("Thursday");
24                 break;
25
26             case 5:
27                 System.out.println("Friday");
28                 break;
29
30             case 6:
31                 System.out.println("Saturday");
32                 break;
33
34             case 7:
35                 System.out.println("Sunday");
36                 break;
37
38         }
39     }
40 }
```

The 'Run' tool window at the bottom shows the execution results:

```
"C:\Program Files\Java\jdk-25\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA 2025.3.1.1\lib\idea_rt.jar=49283" -Dfile.encoding=UTF-8
Enter number (1-7): 6
Tall

Process finished with exit code 0
```

4. Question 4

- While Loop

The screenshot shows the IntelliJ IDEA interface with a Java project named "HelloWorld". The "src" directory contains several files: DayofWeek.java, DisplayName.java, DisplayNumbers.java, DoWhileLoop.java, ForLoop.java, HeightCheck.java, IfStatement.java, JavaCircumference.java, JavaDataTypes.java, JavaEscapeCharacters.java, Main.java, and WhiteLoop.java. The "WhiteLoop.java" file is open in the editor, displaying the following code:

```
import java.util.Scanner;
public class WhiteLoop {
    public static void main(String[] args) {
        Scanner input = new Scanner(System.in);
        System.out.print("Enter a number: ");
        int number = input.nextInt();
        int counter = 1;
        while(counter <= number) {
            System.out.println(counter);
            counter++;
        }
    }
}
```

The "Run" tab at the bottom shows the output of running the "WhiteLoop" class. The terminal window displays:

```
"C:\Program Files\Java\jdk-25\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA 2025.3.1.1\lib\idea_rt.jar=49283" -Dfile.encoding=UTF-8
Enter your height in feet (example 5.8): 6
Tall
Process finished with exit code 0
```

At the bottom right, the status bar shows: 12:1 CRLF UTF-8 4 spaces.

5. Question 5

- Do...While Loop

The screenshot shows the IntelliJ IDEA interface with a Java project named "HelloWorld". The "src" directory contains several files: DayofWeek.java, DisplayName.java, DisplayNumbers.java, DoWhileLoop.java, ForLoop.java, HeightCheck.java, IfStatement.java, JavaCircumference.java, JavaDataTypes.java, JavaEscapeCharacters.java, Main.java, and WhiteLoop.java. The "DoWhileLoop.java" file is open in the editor, displaying the following code:

```
import java.util.Scanner;
public class DoWhileLoop {
    public static void main(String[] args) {
        Scanner input = new Scanner(System.in);
        int correctStudentNumber = 123456;
        String correctPassword = "java123";
        int studentNumber;
        String password;
        do {
            System.out.print("Enter student number: ");
            studentNumber = input.nextInt();
        }
```

The "Run" tab at the bottom shows the output of running the "DoWhileLoop" class. The terminal window displays:

```
"C:\Program Files\Java\jdk-25\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA 2025.3.1.1\lib\idea_rt.jar=54824" -Dfile.encoding=UTF-8
Enter student number: 187462
Enter password: jj
Enter student number:
```

6. Question 6

- For Loop

The screenshot shows a Java development environment with the following interface elements:

- Project View:** On the left, a tree view of the project structure under "HelloWorld". The "src" folder contains several packages:
 - DayofWeek
 - DisplayName
 - DisplayNumbers
 - DoWhileLoop
 - ForLoop
 - HeightCheck
 - IfStatement
 - JavaCircumference
 - JavaDataTypes
 - JavaEscapeCharacters
 - Main
 - WhileLoop
- Code Editor:** The central area displays the content of the `ForLoop.java` file. The code is a Java program that prints numbers from 210 down to 0.

```
import java.util.Scanner;
public class ForLoop {
    public static void main(String[] args) {
        Scanner input = new Scanner(System.in);
        System.out.print("Enter a number: ");
        int number = input.nextInt();
        for(int i = number; i >= 0; i--) {
            for(int j = i; j >= 0; j--) {
                System.out.print(j);
            }
            System.out.println();
        }
    }
}
```
- Run View:** At the bottom, the "Run" tab is active, showing the output of the last run:
 - Up arrow: 210
 - Down arrow: 10
 - Right arrow: 0
 - Process finished with exit code 0