

1.Is Nested Simple If permitted?

Yes Nested if Statements are permitted in java and other programming languages.

A nested if statement is an if statement that appears within the body of another if statement.

This allows more complex conditional branching based on multiple conditions.

It execute in Sequential manner.

Syntax:

```
if(condition ){  
  
    if(condition ){  
  
        .....  
    }  
}  
}
```

If the second if statement is nested within the first if statement. The code inside the nested if statement will only execute if both condition1 and condition2 are true.

If condition1 is true and condition2 is false, the code inside the else block of the nested if statement will execute.

Note: *If the inner condition satisfies then only outer if will be executed. Along with if conditions we can write else conditions also.*

Example:

```
import java.util.Scanner;

public class WeatherAdvisor
{
    public static void main(String[] args)
    {
        Scanner scanner = new Scanner(System.in);
        System.out.print("Enter the current temperature: ");
        int temperature = scanner.nextInt();

        if (temperature > 30)
        {
            System.out.println("It's hot outside!");
            if (temperature > 35)
            {
                System.out.println("Consider staying indoors and keeping cool.");
            }
        }

        if (temperature < 10)
        {
            System.out.println("It's cold outside!");
            if (temperature < 5)
            {
                System.out.println("Wear multiple layers and bundle up.");
            }
        }
    }
}
```

OUTPUT:

Enter the current temperature: 38

It's hot outside!

Consider staying indoors and keeping cool.

2)Is Nested if else permitted?

yes, nested if-else statements are permitted in Java. A nested if-else statement is an if-else statement that appears within the body of either the if block or the else block of another if-else statement. This allows for more complex conditional branching based on multiple conditions.

Syntax:

```
if (condition1)
{
    if (condition2)
    {
    }
    else
    {
    }
}
else
{
    if (condition3)
    {
    }
    Else
    {
    }
}
```

Example:

```
import java.util.Scanner;
public class AgeClassifier
{
    public static void main(String[] args)
    {
        Scanner scanner = new Scanner(System.in);
```

```
System.out.print("Enter your age: ");
int age = scanner.nextInt();

if (age >= 18)
{
    System.out.println("You are an adult.");
    if (age >= 65)
    {
        System.out.println("You are a senior citizen.");
    }
}
else
{
    System.out.println("You are not a senior citizen.");
}

}

else {
    System.out.println("You are a minor.");
}

}

}
```

OUTPUT:

```
Enter your age: 21
You are an adult.
You are not a senior citizen.
```

4. Nested while loop

Having a while loop inside a while loop is called nested while loop.

Example:

```
public class NestedWhile{  
    public static void main(String[] args) {  
        int i = 1;  
  
        while (i <= 3) {  
            int j = 1;  
  
            while (j <= 5) {  
                System.out.print(" * ");  
                j++;  
            }  
  
            System.out.println();  
            i++;  
        }  
    }  
}
```

Output:

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

5.Nested do while loop:

Having a do while loop inside a do while loop is called nested while loop.

Example:

```
public class NestedDoWhile {  
    public static void main(String[] args) {  
        int i = 1;  
        do {  
            int j = 1;  
            do {  
                System.out.print("* ");  
                j++;  
            } while (j <= 5);  
            System.out.println();  
            i++;  
        } while (i <= 3);  
    }  
}
```

Output:

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