Using the while Construct

- The `while` loop construct provides the similar functionality of the `for` loop construct.
- The syntax for the `while` loop construct is:

```
while(expression)
{
        //statement(s)
}
```

Using the while Construct (Contd.)

- You can also create an infinite loop by using the `while` loop construct, as displayed in the following code snippet:

```
while(true)
{
    //statement(s)
}
```

Using the do…while Construct

- The `do…while` loop construct places the condition at the end of the loop, which makes `statement(s)` to be executed at least once.

- Syntax for the `do…while` loop construct is:

```
do
{
        //statement(s)
}while(expression);
```

Using the do…while Construct (Contd.)

- You can also create an infinite loop by using the `do…while` loop construct, as displayed in the following code snippet:

```
do
{
        //statement(s)
}while(true);
```

Just a minute

- The _____ loop construct contains the condition at the end.

Just a minute (Contd.)

- Solution:
  - do…while

Activity 3.2: Working with Loop Constructs

- Problem Statement:

  - In the Hangman game, Peter wants a user to enter a letter. On the basis of the user's input, he wants to check whether the letter is present in the word or not. For this, he decides to compare the letter entered by the user with each letter of the corresponding word. If the letter is present in the word, it should display an appropriate message. In addition, he wants the menu to be displayed till the user wants to guess a letter. Help Peter to achieve the preceding requirement.

Activity 3.2: Working with Loop Constructs (Contd.)

- Solution: To perform the activity, refer the steps given in the embedded document.

Microsoft Word
Document

Summary

- In this session, you learned that:
    - The decision making technique can be implemented in the Java programs by using the following conditional constructs:
        - The `if` construct
        - The `if…else` construct
        - The `switch` construct
    - The `if` construct executes statements based on the specified condition.
    - The `if` construct can contain either a single statement or multiple statements.
    - Java supports the nested `if` construct.
    - The `if…else` construct executes the statements within the `if` block if the expression evaluates to true, otherwise the `else` block gets executed.

Summary (Contd.)

- The `if` construct and the `else` construct can contain either a single statement or the multiple statements.
- Nesting of the `if…else` constructs is possible in both, the `if` and `else` blocks.
- The `switch` construct evaluates an expression for multiple values.
- The `switch` statement is followed by an expression that tests the value of the expression against a list of values, which can be the integer, character, or string constants.
- Java supports the following loop constructs:
  - The `for` loop
  - The `while` loop
  - The `do…while` loop

Summary (Contd.)

- In the `for` loop construct, the `initialization` statement is executed first.
- Thereafter, the `conditional` statement is executed for each iteration.
- Finally, the `increment/decrement` statement is executed that increments or decrements the loop.
- The loop continues executing `statement(s)` until the `conditional` statement evaluates to false.
- The `break` statement causes the program flow to exit from the construct.
- The `continue` statement skips all the statements following the `continue` statement and moves the control back to the loop statement.

Summary (Contd.)

- In the `while` loop construct, `statement(s)` followed by the `while` statement will be executed, when the expression evaluates to true.
- The `do…while` loop construct places the condition at the end of the loop, which makes `statement(s)` to be executed at least once.
- You can create an infinite loop by using `for`, `while`, and `do…while` loop constructs.