**Discussion – Module 3**

**There are various selection structures that can be used in programming. What are the different selection structures that can be used in the Java programming language? Also, under what circumstances should each structure be utilized? Provide examples to support your response in addition to constructive feedback on the structures and circumstances posted by your peers.**

The different selection structures that can be used in the Java programming language are the following:

* if statement
* else statement
* nested if-else statement
* switch statement

These selection structures should be used under the following circumstances:

* Use the "if" statement when you need to check a single condition and execute code based on whether that condition is true.
* Use the "if else" statement when there are two possible outcomes based on a condition. If the condition is true, one block or branch of code is executed; if it is false, another branch is executed.
* Use the "nested if-else" statement when one or more if statements are inside another if statement or if-else statement. This creates a nested structure where certain conditions are checked only if the outer condition is true.
* Use the “switch” statement when you have multiple possible values for a variable and you want to execute different branch of code based on those values.

Coding example with the selection structures:

**If**

if (condition) {

// code to be executed if condition is true.

}

**If -else**

if (condition) {

// code to be executed if condition is true

}

else {

// code to be executed if condition is false

}

**Nested if-else**

if (condition1) {

// code to be executed if condition1 is true

if (condition2) {

// code to be executed if both condition1 and condition2 are true

}

else {

// code to be executed if condition1 is true but condition2 is false

}

}

else {

// code to be executed if condition1 is false

}

**Switch**

switch (variable) {

case value1:

// code to be executed if variable equals value1

break;

case value2:

// code to be executed if variable equals value2

break;

// You can add more cases if needed

default:

// code to be executed if variable doesn't match any case

break;

}

References:

GeeksforGeeks, G. (2023). Decision Making in Java (if, if-else, switch, break, continue, jump) <https://www.geeksforgeeks.org/decision-making-javaif-else-switch-break-continue-jump/>