

## Task1

- a) Describe the evolution of modern programming languages.
- b) Define API, JDK, IDE, and other key terms related to Java programming.
- c) Identify common uses for the Java programming language. (Applications)
- d) Define key syntactical elements in Java.
- e) Illustrate the difference among syntax, runtime, and logic errors using examples.
- f) Write Java programs that take from the user the values of x, n and y and print  $z=3x*n+5y/2x+3n$ .
- g) Describe the syntax of all selections and loops in the Java programming language.
- h) Describe the effect of the Java™ keywords break and continue when used in a loop.
- i) Apply Java™ naming conventions to variables, constants, methods, and classes using examples.
- j) Predict the behavior of selections and loops using the flowcharts.

## Task 2

Write, compile, and execute a simple Java program that prints the string “New Cairo Technological University - Faculty of Industry & Energy Technology- Information and communications technology”.

- a) Create a programming environment using an IDE and the Java Development Kit. Then, implement the above program in this environment.
- b) Implement a java program in 5 ways. This program takes from a user the grades of students in 6 courses to compute the sum of grades for all students (hint the number of students is unknown).

## Task 3

Explain the programming style with an Example of Documentation, Vertical Alignment, Comments, Indentation, Meaningful Identifier Names Consistently Typed, and Appropriate use of Typedef with an Example