Exam 1 – Study guide

The following are suggested study topics for the multiple-choice section of the test.

- OOP Core Principles
- Methods of the Scanner, Math, String, and Random classes
- Operator Precedence
- Primitive Data types
- Evaluating an expression
- Terminology – algorithm, types of errors, Java API, Type casting, classes, objects, methods, …
- Escape characters
- Java operators: +, -, /, *, %, ++, --, …
- enumerated type
- Autoboxing
- Java API packages: java.util, java.text and java.lang
- String:

a. String Basics

What is a string in Java?

How are strings created in Java?

What is the difference between string literals and string objects?

b. String Manipulation

How do you concatenate strings in Java?

Explain the length() method for strings.

What is the charAt() method used for?

c. String Methods

- Describe common methods for string manipulation (e.g., substring(), toUpperCase(), toLowerCase()).

- Explain the equals() and equalsIgnoreCase() methods.

- OOP Principles
- Classes and Objects

    - Define a class and an object.

    - How is a class different from an object?

Programming:

For the programming section of the test, you will write a program that uses the Scanner class to read the user's input. Then process data and generate output. You should write a complete program, including the class header, main method and import the necessary packages. You will be asked to use methods of String, Random and Math classes.