

DSA Week 2 Questions (solutions)

1. Referring to Java programming, what are objects?

An object in a program corresponds more closely to an object in the real world

A programming unit which has associated with variables (data) and methods (functions to manipulate the data).

An object or objects are created from a class or a basic unit of OOP which is representation of real-life entities.

2. Referring to Java programming, what are classes?

A class is a specification or a blueprint for one or more objects.

A class is like an object constructor or a blueprint for creating objects.

3. Referring to Java programming, what are methods?

Methods are chunks of code that can be called on a particular object.

A method is a block of code which only runs when it is called.

Declared within a class, methods are used to perform certain actions.

Methods are blocks of code that perform a specific task. A method allows a programmer to reuse code, improving both efficiency and organisation.

4. Objects contain variables (data) and methods (functions to manipulate the data).

5. Explain one of the three class modifiers.

Public – the code is accessible for all classes in the program

Private – the code is only accessible within the declared class

Protected – the code is accessible in the same package and subclasses.

6. What base type is used for decimal values?

Double (double) or Float (float)

7. What base type is used for whole numbers?

Integer (int)

8. What's the difference between an inline comment and a block comment?

Inline comments are limited to one line while block comments are multiline comments formed to create a block of comments. Inline comments begin with `//` while block comments open with `/**` and end with `*/`

9. Referring to Java programming, what are methods and parameters?

Methods:

- Methods are chunks of code that can be called on a particular object.
- A method is a block of code which only runs when it is called.

Parameters:

- A method's parameters are defined in a comma-separated list enclosed in parentheses after the name of the method.
- Parameter are variables inside a method, hence, information is passed to methods using parameters.

10. Referring to Java programming, what are constructors?

A constructor is a special kind of method that is used to initialize a newly created instance of the class so that it will be in a consistent and stable initial state.

A constructor in Java is a special method that is used to initialize objects. The constructor is called when an object of a class is created.

11. How do you identify local variables?

Local variables are visible only within the statement block or scope of a method or constructor.