

Name :- Abdullah Bin Norman Pabid

Student ID :- 2120180081

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Course Title :- Object Oriented Programming

α Mid-term^u

° Exam^u

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Ans-to-the-Q-No-1

(a)

Polymerphism: Polymerphism refers to the ability of a variable, object or function to take on multiple forms.

Ans-to-the-Q-No-1(b)

These are the Objects and Classes in Java—

Objects:

① State:— It is represented by attributes of an object. It also reflects the properties of an object.

② Behavior: It is represented by methods of an object.

③ Identity: It gives a unique name to an object and enables one object to interact with other objects.

Class:

- ① Modifiers.
- ② Class name
- ③ Superclass (if any).
- ④ Interfaces (if any).
- ⑤ Body.

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Ans. to the Q. No. 1 (c)

Benefits:

- ① Through inheritance, we can eliminate redundant code and extend the use of existing classes.
- ② We can build programs from the standard working modules that communicate with one another, rather than having to start writing the code from scratch.
- ③ The principle of data binding helps the programmer to build secure programs that can't be invaded by code in other parts of the program.
- ④ It is possible to map objects in the problem domain to those objects in the program.

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⑤ It is possible to have multiple objects to exist without any interference.

⑥ It is easy to partition the work in a project based on objects.

⑦ The data centered design approach enables us to capture more details of a model in an implementable form.

⑧ Object-oriented systems can be easily upgraded from small to large systems.

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Ans to the Q-N-2 (a)

Java applets are used to provide interactive features to web applications and can be created by browsers for many platforms.

Ans to the Q-N-2 (b)

All the applications are -

① Mobile Applications:

Java is considered as the official programming language for mobile app development.

② Desktop GUI Applications:

All desktop applications can easily be developed in Java.

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③ Web-based Applications:

Java is also used to develop web applications.

④ Enterprise Applications:

Java EE is considered as the backbone in a variety of banking applications which have Java running on the UI to back server end.

⑤ Scientific Applications: Software developers

see Java is the weapon of choice when it comes to coding the scientific calculation and mathematical operations.

⑥ Gaming Applications:

This issue will be solved in the newer versions of JVMs.

⑦ Big data technologies:

It is crystal clear that Java is the backbone when it comes to developing Big Data using Java.

⑧ Business Applications.

⑨ Distributed Applications.

⑩ Cloud-based Applications.

Ans-to-the-Q No-2 (c)

Multithreading: Multithreading is the ability of a program on an operating system to enable more than one user at a time without requiring multiple copies of the program running on the computer.

Advantages:

- ① Enhanced performance by decreased development time.
- ② Simplified and streamlined program coding.
- ③ Improved GUI responsiveness.

- ④ Better use of cache storage by utilization of resources.
- ⑤ Decreased cost of maintenance.
- ⑥ Better use of CPU resource.

Disadvantages:

- ① Complex debugging and testing processes.
- ② Overhead switching of context.
- ③ Increased potential for deadlock occurrence.
- ④ Increased difficulty level in writing a program.
- ⑤ Unpredictable results.