

Java quiz Adventure project

Introduction to Java: Display a welcome message

```
public class Main {  
  
    public static void main(String[] args) {  
        // Displaying a welcome message  
        System.out.println("Welcome to the Introduction to Java Quiz!");  
    }  
}
```

Briefly explain cover basic Java concepts

Basic Java Concepts:

Object-Oriented Nature: Java is an object-oriented programming language, meaning it focuses on organizing code into objects that encapsulate data and behavior.

Platform Independence: One of Java's key features is its ability to run on any device with a Java Virtual Machine (JVM). This "write once, run anywhere" capability makes Java highly portable.

Bytecode and JVM: Java applications are compiled into bytecode, a platform-independent intermediate code. The bytecode is then interpreted and executed by the Java Virtual Machine (JVM).

Object-Oriented Principles: Java incorporates key object-oriented principles such as encapsulation (data hiding), inheritance (code reuse), and polymorphism (ability to take multiple forms).

Rich Standard Library: Java comes with a rich standard library that includes pre-built classes and packages. These classes provide essential functionalities, making it easier for developers to create robust applications.

2 JDK, JRE, JVM Overview: Ask straightforward questions about JDK, JRE, and JVM.

For example:

What does JDK stand for?

- a) Java Development Kit**
- b) Java Runtime Environment**
- c) Java Virtual Machine**

Question 1: What does JDK stand for?

- a) Java Development Kit b) Java Runtime Environment c) Java Virtual Machine

Question 2: Which component is responsible for running Java bytecode on the computer?

- a) JDK b) JRE c) JVM

Question 3: What is the primary purpose of the JRE?

- a) To compile Java source code b) To execute Java bytecode c) To develop Java applications

Question 4: Which part of the Java architecture is platform-dependent?

- a) JDK b) JRE c) JVM

Question 5: If you want to develop Java applications, which of the following do you need to install?

- a) JDK b) JRE c) JVM

Data Types and Code Flow:

Present easy questions about Java data types and simple code outcomes.

For example: "What will be printed? int x = 5; double y = 2.5;

System.out.println(x + y);"

Q What will be the result of the following code?

```
``java
int a = 10;
double b = 3.5;
```

```
System.out.println(a * b);
```

```
...
```

a) 15.0

b) 35.0

c) 10.5

Q What is the data type of the result when you divide an int by a double in Java?

a) int

b) double

c) float

Q What will be printed?

```
```java
```

```
int x = 8;
```

```
double y = 2.0;
```

```
System.out.println(x / y);
```

```
...
```

a) 4.0

b) 4

c) 2.5

Q What is the output of the following code?

```
```java
```

```
String text = "Hello, ";
```

```
String name = "John!";
```

```
System.out.println(text + name);
```

```
...
```

a) Hello, John!

b) Hello John!

c) Hello, name!

Q What will be the value of `result` after the following code?

```
```java
```

```
int num1 = 7;
```

```
int num2 = 3;
```

```
int result = num1 % num2;
```

```
```
```

a) 1

b) 2

c) 3

Decision Making Statements:

Introduce basic if statements with clear conditions.

For example: 'If it's raining, should you take an umbrella? a) Yes b) No'

Move to straightforward if-else scenarios.

For example: "Is 10 greater than 5? a) Yes b) No"

If the time is 8 AM, should you say "Good morning" or "Good night"?

a) Good morning

b) Good night

If a person is older than 18, should they be allowed to vote?

a) Yes

b) No

If a student's score is 90 or above, what grade did they likely achieve?

a) A

b) B

c) C

If a number is negative, should you print "Negative" or "Positive"?

a) Negative

b) Positive

If it's the weekend (Saturday or Sunday), should you go to work?

a) Yes

b) No

If a person's age is less than 13, should they be categorized as a child or an adult?

a) Child

b) Adult

If a temperature is below freezing (0 degrees Celsius), should you wear a coat?

a) Yes

b) No

If a product's price is reduced by 20%, what should be done to the original price?

a) Add 20%

b) Subtract 20%