

Beaconfire Inc, Home Work, Week1 Day2.

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Short Answer:

1. What is Java variables and How to declare Java variables?

-> Java variables is a memory address that store in the memory Stack and point to a data value, the data value may store in the memory Stack too if its type is primary, and if data type is non-primary or class or wrapper class that store in memory head.

2. What are Java data types?

-> there are 2 types: first primary type like int, double, char, long, boolean, short, byte. Second type is non-primary type like: wrapper class, String, Integer, Character, Double... and instance of class that create with "new" key word.

3. What are Primitive data types in Java?

-> primary type like int, double, char, long, boolean, short, byte. the data value store in the memory Stack.

4. What is wrapper class in Java and Why we need wrapper class?

-> wrapper class is contains the primitive data types that mean we can user primitive data like objects. like: Integer, Character, Double, Short, Byte. And when we use Collections API like ArrayList, we need wrapper class to store data values to be object by boxing or unboxing.

5. What is the differences between passing by value and passing be reference?

-> pass by value is take the original value in the memory, and it can not be modify when it get out the {} box. But passing by reference that means pass the memory address of available that point to somewhere of memory address, if that memory address have change, the result will change too.

6. What is an Immutable class in Java?

-> when we create a class and put the key word "final" in front it. That class can not be inheritance. Other meaning of immutable is we cannot modify the refference of object when we initilize the object from class .

7. How to create a custom immutable class in Java?

-> when we create a class and put the key word "final" in front it so we can extends or inharitance the class. Make all mutable fields be final so that its value can be assigned only once. That mean we can make all field be private so that cannot direct access and do not need setter method for variables..

8. What is String pool in Java and why we need String pool?

-> String pool is pool of memory address that store string in the heap. When we use "new" key word create the String object, the object will not store in the pool. And we need String pool because for run time faster than create new object String.

9. What are the results of following expressions? Please include the calculation process.

- $5 \& 6 = 101 \& 110 = 100 \Rightarrow 4$
- $5 | 6 = 101 | 110 = 111 \Rightarrow 7$
- $5 \wedge 6 = 101 \wedge 110 = 011 \Rightarrow 3$

10. Why we need to use break statement in Switch statement?

-> if we need program stop on the statement of Switch, we need to use break on the end of the case. Otherwise, the program will go through to next case.

11. What are access modifiers and their corresponding scopes in Java?

-> access modifiers: public, private, protect, default. Using the access modifiers we can set scope or accessibility of classes, methods, constructors and other members.

public -> accessible from everywhere in the program

private-> accessible from only inside of class.

protect-> accessible from within the same package or subclasses in different package.

default-> accessible from only within the same package.

12. What is static field and static method?

-> static field is belong to the class level when we use then and its share value to all of its instance of class. Static method is belong to class level too, it can not override by subclass.

13. Explain the main method in Java.

-> the main method of java program is when the program starts, it comes to the main method of java program first and the project has at least one main method and at least one class, in our program. That mean is an entry point to start the execution of the program. It is an public access specifier, return type is "void", and "static" method. The arguments receive is String array "String args[]" of command line input data from user.