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

   Variables are containers for storing data values. To declare a variable, you need to specify the type and assign the identifier to a value like “int a = 10”

2. What are Java data types?

   There are two types of data types in Java: primitive and non-primitive.

3. What are Primitive data types in Java?

   Primitive: boolean, char, byte, short, int, long, float and double.

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

   Wrapper Class will convert primitive data types into objects. The classes in java.util package handles only objects and hence wrapper classes help in this case also.

   Data structures in the Collection framework such as ArrayList and Vector store only the objects (reference types) and not the primitive types.

5. What is an Immutable class in Java? How do you create an immutable class?

Immutable class in java means that once an object is created, we cannot change its content.

- All variables in the class is final and private
- The constructor should use deep copy to initialize all the fields
- In getter method, deep copy should be performed to return value rather than reference
- An Immutable class in Java is declared as final
- An Immutable class do not have setter methods.

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

   a collection of Strings which are stored in heap memory

   Benefits: save memory, reusability (don’t need to create a new String if already exists)

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

   5 & 6 = 0101&0110 = 0100 =4

   5 | 6 =0101 + 0110 =0111=7

   5 ^ 6 = 0101 ^ 0110 = 0011 =3

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

“Break” end processing of a particular labeled statement within the switch statement. Otherwise, the program continues to the next labeled statement, executing the statements until a break or the end of the statement is reached.

9. What are access modifiers and their scopes in Java?

The access modifiers in Java specifies the accessibility or scope of a field, method, constructor, or class.

Private: The access level of a private modifier is only within the class. It cannot be accessed from outside the class.

Default: The access level of a default modifier is only within the package. It cannot be accessed from outside the package. If you do not specify any access level, it will be the default.

Protected: The access level of a protected modifier is within the package and outside the package through child class. If you do not make the child class, it cannot be accessed from outside the package.

Public: The access level of a public modifier is everywhere. It can be accessed from within the class, outside the class, within the package and outside the package.

10. What is static field, static method and static class?

A static field, static method belongs to the class rather than instances.

Only nested classes can be static

11. Explain the main method in Java.

ava main method is the entry point of any java program.

public — main can be called from outside the class

Static — main can be called by the JVM without instantiating an object

Void — main does not return a value