Interview Questions

1. Difference between Heap and Stack Memory in java. And how java utilizes this.

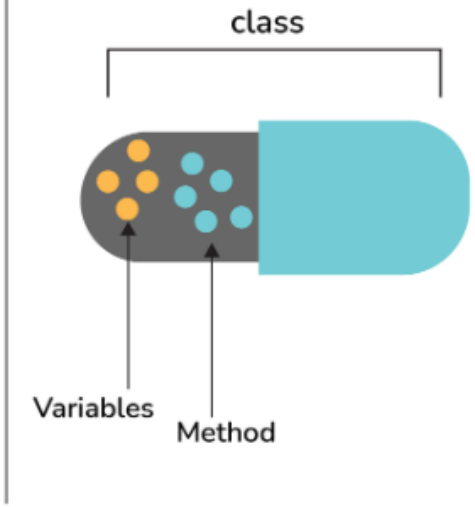
- **Stack memory:**
  - **is the portion of memory that was assigned to every individual program. And it was fixed.**
- **Heap memory:**
  - **it is the portion that was not allocated to the java program but it will be available for use by the java program when it is required, mostly during the runtime of the program.**

2. What do you mean by data encapsulation?

```
class
{

  data members (properties)
          +
   methods (behavior)

}
```



- Data Encapsulation is an Object-Oriented Programming concept of hiding the data attributes and their behaviours in a single unit.
- It is used for the security of the private properties of an object and hence serves the purpose of data hiding.

3. Can the main method be Overloaded?

- Yes, It is possible to overload the main method.
- We can create as many overloaded main methods we want.
- However, JVM has a predefined calling method that JVM will only call the main method with the definition of -

```
class Main {
    public static void main(String args[]) {
        System.out.println(" Main Method");
    }
    public static void main(int[] args){
        System.out.println("Overloaded Integer array Main Method");
    }
    public static void main(char[] args){
        System.out.println("Overloaded Character array Main Method");
    }
    public static void main(double[] args){
        System.out.println("Overloaded Double array Main Method");
    }
    public static void main(float args){
        System.out.println("Overloaded float Main Method");
    }
}
```

4. What is Method Overloading?

```
class OverloadingHelp {
    public int findarea (int l, int b) {
            int var1;
            var1 = l * b;
            return var1
    }
    public int findarea (int l, int b, int h) {
            int var2;
            var2 = l * b * h;
            return var2;
    }
}
```

Same method name but different parameters

5. What is method overridding?

```
class HumanBeing {
    public int walk (int distance, int time) {
        int speed = distance / time;
        return speed;
    }
}
class Athlete extends HumanBeing {
    public int walk (int distance, int time) {
        int speed = distance / time;
        speed = speed * 2;
        return speed;
    }
}
```

Same method signature, same parameters, but present in classess that have parent-child relationship

6. Why is the main method static in Java?

- The main method is always static because static members are those methods that belong to the classes, not to an individual object.
- So if the main method will not be static then for every object, It is available. And that is not acceptable by JVM.
- JVM calls the main method based on the class name itself. Not by creating the object.
- Because there must be only 1 main method in the java program as the execution starts from the main method.
- So for this reason the main method is static

7. What is the main objective of garbage collection?

- The main objective of this process is to free up the memory space occupied by the unnecessary and unreachable objects during the Java program execution by deleting those unreachable objects.
- This ensures that the memory resource is used efficiently, but it provides no guarantee that there would be sufficient memory for the program execution

8. What is Multithreading in Java

- **Multithreading in Java is a process of executing multiple threads simultaneously.**
- **A thread is a lightweight sub-process, the smallest unit of processing. Multiprocessing and multithreading, both are used to achieve multitasking.**
- **Java Multithreading is mostly used in games, animation, etc.**

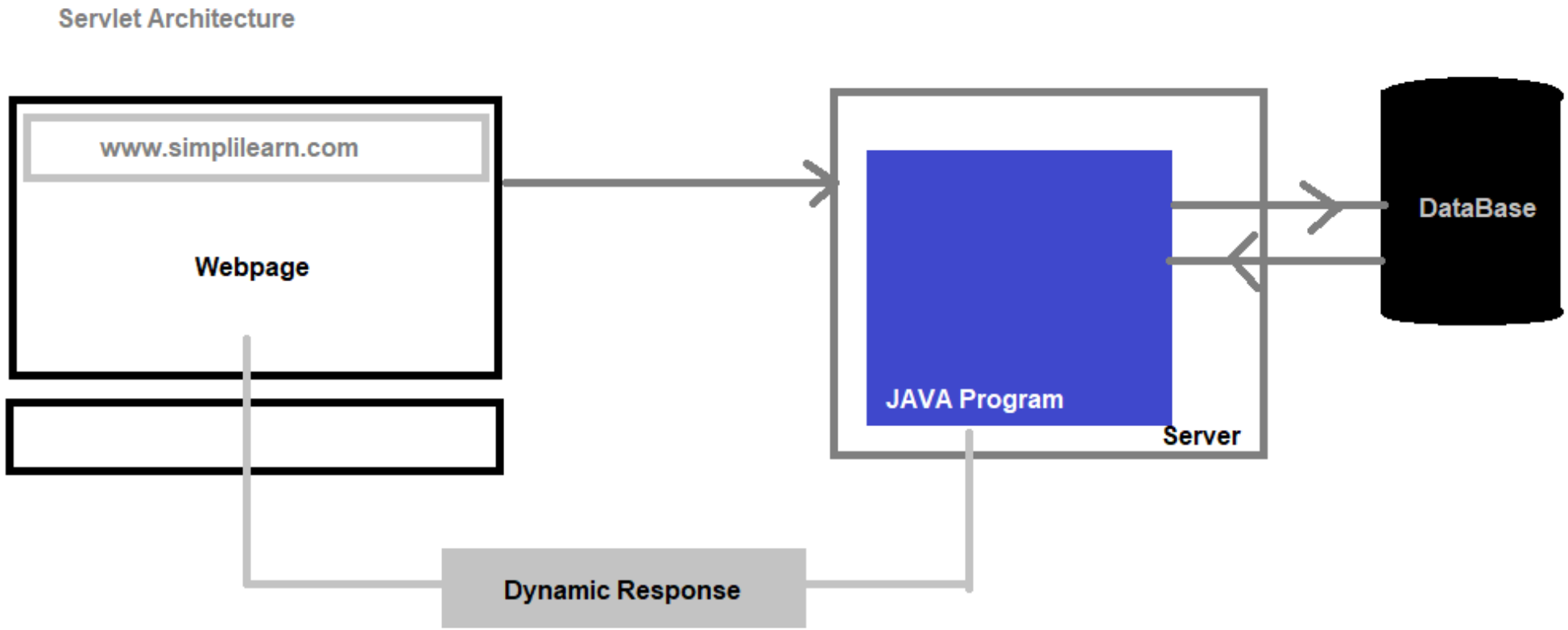
9. What is Synchronization in Multithreading?

- Synchronization in Java is the capability to control the access of multiple threads to any shared resource.
- Java Synchronization is better option where we want to allow only one thread to access the shared resource
- The synchronization is mainly used to
    1. To prevent thread interference.
    2. To prevent consistency problem.

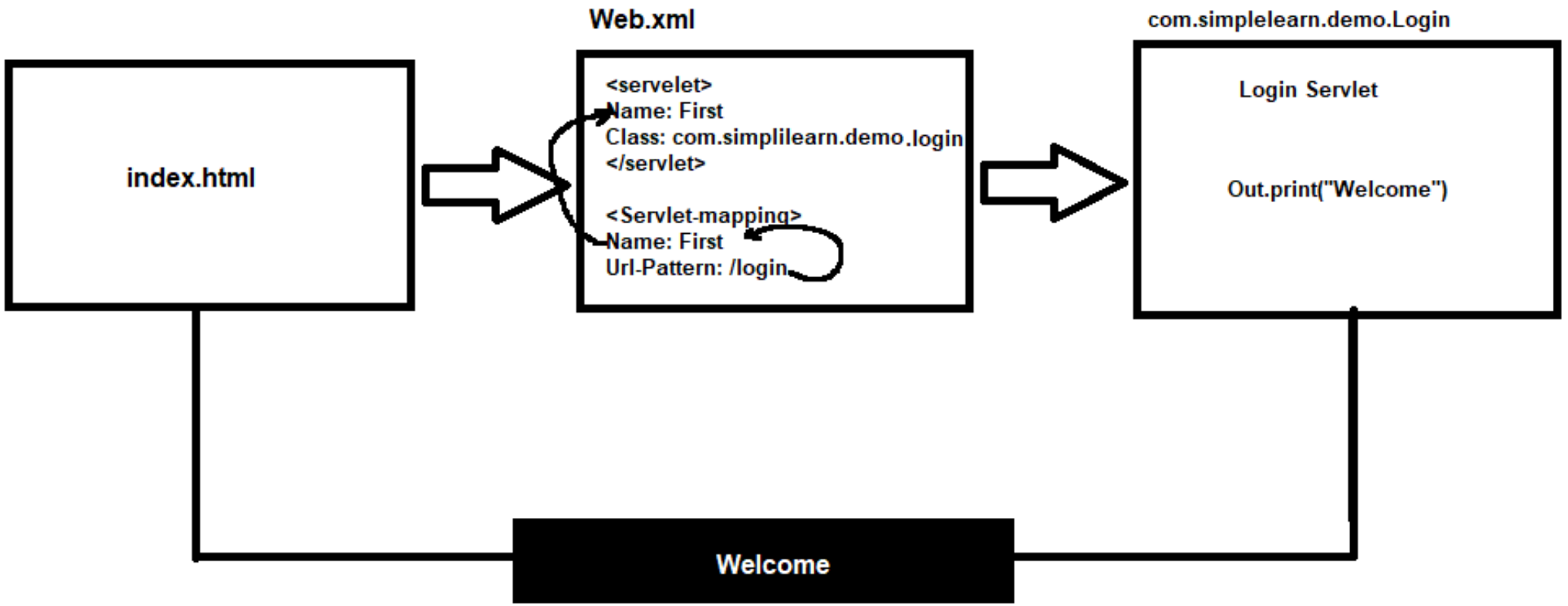
10 which one is better ArrayList and Linked List? Why?

- arraylist is good for retrival
- linkedlist for manupulating data

11. Flow of Servlet in JAVA



12. Servlet Mapping



13. How to Integrate Spring boot With Angular?