1.Ans: At first create a class for circle and rectangle. Declare variables (radius, length, width). Scanner sc = new Scanner (System. in); for input. Take area as a double variable. And print the area.

There are two types of polymorphism in Java: compile-time polymorphism and runtime polymorphism or Dynamic method dispatch. Runtime polymorphism is achieved through overriding method. Method Overriding is done when a child or subclass has a method with the same name, parameters and return type as the parent or the super class , that function overrides the function in the super class.

2.Ans**:** Heap is a hierarchical data structure. Heap memory is a part of memory allocated to JVM. Object stored in the Heap can be accessed throughout the application. Heap allows you to access variables globally. It does not need to be contiguous, and its size can be static or dynamic.

Stack is a linear data structure.Stack memory will never become fragmented . Stack accesses local variables only while Heap allows you to access variables globally.

I use heap memory , because heap memory is dynamic. For Large data it works good. Stack accesses local variables only while Heap allows you to access variables globally .With heap memory I can allocate both heap and stack. that’s why I use heap memory.

3.Ans: We can take a file and put data in that file. It will be too early to read data. This code is in C language. Instead of c language if we do code in Python, Its speed will increase a lot.

4.Ans: No it’s not proper way to approach in my point of view. Because the tree’s most of the node are in left side . In this recursion when we work right side node it’s time consuming. This recursion can’t work in proper way. We can use other traversal algorithm .

We can use BFS ( Breath First Search) algorithm . BFS selects a single node (initial or source point) in a graph and then visits all the nodes adjacent to the selected node. BFS accesses these nodes one by one. The visited and marked data is placed in a queue by BFS .