1. **What is the difference between Object Oriented Programing (OOP) and SOP (Structure Oriented Programing)?**

**Answer:**

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| **Object Oriented Programing** | **Structure Oriented Programing** |
| This paradigm uses Objects rather than functions or procedures | This paradigm has no concept of Object, It uses functions and procedures. Tasks are executed by calling functions or procedures. |
| It’s a bottom up approach | Its top down approach |
| It supports data hiding and reusability | There is no mechanism to provide data hiding so it’s less secure. There is no mechanism for code reusability so it’s more cumbersome to write code. |
| This approach is best suited for complex applications. | This approach is best suited for moderate problems. |
| Java, C#, C++ | ALGOL, Pascal, Pl/I, C , Ada |

1. **What is the difference between procedural programing language and structural programing language?**

**Answer:**

Procedural programing comprises procedures calls to complete the execution of dedicated task. Procedure consist of set of executable statements.

Structural programing comprises everything that is there is procedural programing and has its own extra functionality that separates data from its functionality.

1. **What is the difference between class and object?**

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| Class | Object |
| Class is blue print or template of real world entity. | Object is actual representation of a class. |
| When a class is created no physical memory is allocated to class. | Physical memory is allocated when object of the class is created. |
| Class is logical/conceptual. | Object has physical/real representation. |
| Class is a logical entity, it does not contain any data or value. | Object is physical entity, each object contains values respective to that object |
| A class can exist with object | An object can not exist without any class. |
| Class : Car  Class: Mobile | Object: Wagan R, Santro  Object: Galaxy, Asus |

1. **List any five OOPs languages except Java and C++ ?**

Answer: Python, Go, Dart, C#, Ruby

1. **List few OOPs languages that can be executed on JVM ?**

Answer: Scala, Kotlin, Groovy, Clojure, Conclusion

1. **List few limitations of the OOPs programing paradigm?**

Answer:

* + OOPs programs requires intensive testing process.
  + LOC written in OOPs language is more as compare to LOC required in procedural programing for same logic.
  + OOPs programs consumes large amount of memory as compare to procedural programing.
  + OOPs programs are difficult to understand of corresponding class documentation is not available.
  + OOPs programing paradigm is not suitable for small problems.

1. **Give a real word example of OOPS features:**

Answer:

**Class:** Mobile Phone

**Object**: Samsung Galaxy

**Abstraction**: we are allowed with feature of calling but we are not aware about internal working that connects a call with same of different operator.

**Encapsulation**: a single mobile phone is encapsulating various features like (Color, weight, shape) and behaviour like calling, chatting through texting, watching videos and so on.

**Polymorphism**: with same mobile set we can watch videos, we can use for texting, we can call, we can connect group call.

**Inheritance**: present model of Samsung galaxy is updated version of previous mobile phone of Samsung

1. **List keywords/technology/ways through which various OOPs objects are implemented in java?  
   Answer:**

**Abstraction**: Public/ Private/Protected/Default [Access specifier]

**Encapsulation**: Create a class.

**Inheritance**: extends /implements [use class and interface]

**Polymorphism**: overloading or overriding

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