Assignment -10

Interface questions:

1. What is an interface in Java?

Ans: interface is a blueprint of a class which has only abstract methods. Interface cannot be instantiated, we can only implement it.

2. Which modifiers are allowed for methods in an Interface? explain with an example.

Ans: only public access modifier is allowed for methods in interface.

Eg.
```
interface Abc{
    //private void show();    //compile time error
    public void show();
}
class M implements Abc{
    public void show(){
        System.out.println("in show");
    }
}
public class InterfaceEx {
    public static void main(String[] args) {
        M obj = new M();
        obj.show();
    }
}
```

3. What is the use of interface in Java? Or why do we use an interface in Java?

Ans: interface in java is used to get multiple inheritance.
It is used to obtain total abstraction .
By using interface we can obtain loose-coupling.

4. What is the difference between abstract class and interface in Java?

Ans: Interface:

1. When we have requirement specification the we should use interface
2. every method of interface is always public and abstract
3. we can't declare methods as private, protected, final, static.
4. variables always should be public static final.
5. variables should be initialized at the time of declaration.
6. we can't take static and instance blocks.
7. we can't take constructor.

Abstract Class:

1. When we need partial implementation then we use abstract class.
2. every method of abstract class need not to be public and abstract.
3. There are no restrictions on method modifiers
4. variables need no to be public static final.
5. There are no restrictions on variable modifiers
6. it is not required to perform initialization at the time of declaration.
7. we can take constructor.
8. we can take static and instance blocks.

lambda function questions:

1. What is the lambda expression of java 8.

Ans: lambda expression is an anonymous function means the function which doesn't have the name, return type and access modifiers.

2. Can you pass lambda expression to a method? When?

Ans: lambda expression can be passed in a method when method has argument of type of functional interface. If we need to pass a lambda expression as an argument, the type of parameter receiving the lambda expression argument must be of a functional interface type.

3. What is the functional interface in java8?
Ans: if any interface contains only one abstract method then such type of interfaces are called as functional interface.

4. Why do we use lambda expression in java?
Ans: We use lambda expression to provide implementation of functional interface and for less coding.

5. Is it mandatory for a lambda expression to have parameters?
Ans: No, it is not mandatory for a lambda expression to have parameters. Lambda expression can have no parameter, one parameter and two parameter type.

Exception Handling questions:

1. Explain different types of error in java?
Ans: Types of error:

1. Runtime Error- these error are identified by the jvm during runtime.
2. Syntax Error- these error are done by the programmer in syntax.
3. Logical Error- these error are also done by the programmer which is error in logic.

2. What is an exception in java?
Ans: An unwanted event that disturbs the normal flow of execution of a program is called exception.

3. How can you handle exception in java? Explain with an example?
Ans: Exceptions can be handled by using try-catch block in java, where the risky code is written inside a try block and their respective handling code inside the catch block.

Eg.
```
public class TryCatchEx {
    public static void main(String[] args) {
        int a=6;
        int b=0;
        try {
            int result = a/b;
        }
        catch (ArithmeticException e){
            System.out.println("cannot divide by zero");
        }
    }
}
```

4. Why do we need exception handling in java?
Ans: We need exception handling to handle the unwanted exceptions in java and to obtain normal flow of the program.

5. What is the difference between exception and error in java?
Ans: Errors are caused by serious problems which is not recoverable, Where exceptions are caused by a program which is recoverable by handling the exception.

6. Name the different types of exceptions in java?
Ans: There are mainly two types of exceptions in java:

1. Checked Exceptions
2. Unchecked Exceptions

7. Can we just use try instead of finally and catch blocks?
Ans: No, we cannot write only try block without catch and finally blocks.