FULL STACK DEVELOPMENT – WORKSHEET-4- ANS

- Answers of Worksheet 4

Q1. **Ans: OOP's** is an Object Oriented Programing System. In this we represent everything as an object and the class. In this we use class, object and features like Inheritance, Polymorphism, Abstraction and Encapsulation.

Q.2 **Ans**:

Object: Gives things's state and behavior .

```
public class MyPencil {
int x=10;//price
String y="yellow";
public static void main (String args []) {
MyPencil Myobj= new MyPencil ();
System.out.println(Myobj.x);
System.out.println(Myobj.y);
}
}
```

```
Output: 10
        yellow
```

Class: A class keyword is used to create a class. A simplified general form of the class definition is given below:

```
class classname {
type instance variable 1;
type instance variable 2;
.
.
.
type instance variable n;
type methodname 1 (parameter list) {
// body od method
}
type methodname 2 (parameter list) {
// body od method
}
type methodnamen (parameter list) {
// body od method
}
 }
```

Abstract class Example: Abstraction is a process which displays only the information needed and hides the unnecessary information. We can say that the main purpose of abstraction is data hiding.

```
//abstract parent class
        abstract class animal {
         //abstract method
      public abstract void sound();
         }
 public class animel extends animal {
```

```
      public void sound ( ) {
System.out.println("moo moo");
}
public static void main ( String args [ ] ) {
 animal obj = new animel ( );
obj. sound ();
}
}
```

Output: moo moo

Multiple Choice Questions-Ans

Q1. **Ans: A) Making at least one member function as pure virtual function**

Q2. **Ans: A) 1,3 and 4**

Q3. **Ans: B) at compile time**

Q4 **Ans: A) 0**

Q5.Ans: C) both A and B

Q6.Ans: C) class

Q7. **Ans: D) All of the above**

Q8. **Ans: C) Compile error.**

Q9. **Ans: A) Only 1,2 and 3.**

Q10. **Output:** `Derived::show() called`

Explaination: In the above program, b is a reference of Base type and refers to an object of Derived class.

Q11 **Output:** compile error.

Explaination: Final methods cannot be overridden.

Q12. . **Output:** `Derived::show() called`

Explaination: In the above program, b is a reference of Base type and refers to an object of Derived class.

Q13. **Output:**
```
Exception in thread "main" java.lang.NoSuchMethodError: 'void
com.java.question_set4.Derived.getDetails()'
at com.java.question_set4/com.java.question_set4.Test.main(Test.java:20)
```

Explaination: Final and static methods cannot be overridden.

Q14.**Output:**Compilation error.
```
Exception in thread "main" java.lang.Error: Unresolved compilation problem:
      The return type is incompatible with Derived.getDetails(String)
```

```
at
com.java.question_set4/com.java.question_set4.Test.getDetails(Test.java:13)
      at com.java.question_set4/com.java.question_set4.Test.main(Test.java:21)
```

Q15. **Output:**
```
Adding to 100, x = 104
Adding to 0, y = 3 3 3
```

Explaination: both x and y are static variables here.

Q16. **Output:**
```
Exception in thread "main" java.lang.Error: Unresolved compilation
problem:
The method m1(int, float) is ambiguous for the type San
```
Explaination: The method requires body instead of semicolon.

Q17. Error.

Explaination: Type mismatch can not convert from null to int.

Q18. **Output: 0 0**

Explaination: The protected member in a program of Java is accessible in all the classes of the same packages and inherited classes of other package. Integral variable value initialized as 0 in Java by the default constructor. So, that's why the output of the given code is 0 0.

Q19. **Output:**
```
Constructor called 10
Constructor called 5
```

Q20. **Output: 7**

Q21. **Output: 2**

Explaination: displays value of obj2 which contains j value.

Q22. **Output:**
```
Error: Could not find or load main class method_overiding
```

Explaination: class contains a private member variable j, this cannot be inherited by subclass B and does not have access to it.

Q23.**Output: 2**

Explaination: class A & class B both contain display() method, class B inherits class A, when display() method is called by object of class B, display() method of class B is executed rather than that of Class A.

Q24. **Output:**
```
Error: Unresolved compilation problem:
      Syntax error, insert ";" to complete Statement at
com.java.question_set4/com.java.question_set4.super_use.main(super_use.java:24)
```

Q25. **Output:**
```
obj1.a = 4  obj1.b = 3
obj2.a = 4  obj2.b = 3
```