Assignment No. 06

Q1. What is method overloading in Java & explain with an example.

Soln. Here we can create multiple method of same name in the same class and all the method work in diff. way.

```
class Hoy {
    public void area() {
            System.out.println("area");
    public void area(int r) {
            System.out.println("3.14 * r * r");
            }

class Ja {
    publis static void main(String[] args) {
        Hoy h = new Hoy();
            h.area();
            h.area(r);
        }
    }
```

Q2 What are the ruler for method overloading resolution in java? How doer java determine which over. method to call?

Soln. — method must have diff. parameter
— The class should be same
— The method should be same.
— Parameter type and parameter number should be different

Q(8) what doer static keyword mean in java ? Explain the diff. between static and non static method

Soln Static keyword in java indicate that a particular mem is an instance but rather part or type. The static mem will be shared among all instance of the class, so we will only create one instance of it.

Static method is a class method and belong to the class itself. This means you do not used an interface in order to use a static method. Anon static method is an instance method and belongs to each object that is generated from class.

Q 9 Can static method be overloaded and overwritten in Java ? How are the stored multiple instance of a class ?

Soln. static methods in java can not be override This is because static method are not associated with the instance of the class but with the class itself. Therefore when a such initiate a static method from its parent class, it can not modify the behaviour of the static method in any way.

In the same class is loaded in different class.

Q 5. what is the role of static keyword in the context of memory mgmt?

Soln The static keyword in java is mainly used for memory mgmt. The static keyword in java used to share the same variable or method of a given class. The user can apply static keyword in variable method, blocker and in nested classes. The static keyword belongs to the class than the instance of the class.

Q 6 What is the significance of final keyword in Java?

Soln final is a keyword.

① Final variable:
If we make any variable as final we cannot change the value

② Final method: If we make method as final, we can not override it

③ Final Class: If we make any class final we can not ~~use~~ extend it

Q 7. Can a final method be overridden in a subclass? How does the final keyword affect variable, methods & class in Java.

Soln No, methods that are declare as final can not be overridden or hidden.

If variable made final then we can not change its values. If method made final then we can not override it. Class, final can not be extend it

Q 8 What does this keyword represent in Java?

Soln this = instance of a class
— used to access or modify field of current object. when field name = local variable name.

This keyword refers the current object in a method as a constructor The most common use itr to eliminate condition between class attribute and parameter with the same name.

Q 9. What are narrowing and widening conversion in Java?

Soln widening: Converting a smaller data type into longer datatype

eg byte → short → class → int → long

Narrowing: converting a large datatype to a smaller datatype.

ex: float → long → int → char → short → byte

Q10. Provide example of narrowing & widening conversion between primitive data type?

Sol: Widening:

```
public class Hoy{
    psvm() {
    int a=5;
    float b = 3.5f;
    float sum = a+b;
    Sop ("value :" +a);
    Sop ("value :" +b);
    Sop ("value :" $sum);
    }
}
```

Narrowing:

```
public class B {
    psvm() {
    float a = 5.7f;
    int b = (int) a;
    Sop ("value :" +b);
    }
}
```

Q 11 How does Java handle potential loss of precision during narrowing conditi

Soln In the case of double to float, you can have a const value which it in the right range, but still lose precision. In your specific case of 10.0. The value can be represented exactly in both float and double

```
float b = (float) 10.1;
double d = 10.1;
sop (f==d);
```

Q 12) Explain the concept of automatic widening conversion in Java.

Soln - widening conversion take place when two data types are automatically converted. This happens when the two datatype are compatible. when we assign a value of a smaller data type to bigger data type.

byte → short → int → long → float → double

Q 13) what are the implications of narrowing and widening conversion of type compatibility and data lose?

Soln widening conversion present the source value but can change its representation This occurs if you convert from an integral type or decimal, or from char to string. Change a value