Assignment 6

1) Method overloading defines multiple methods with same name and different parameters.

public int add(int a, int b) { }
public double add(double a, double b) { }

2) Rules for method overladding:
- It is not return type indenendent
- The number of parameters must be different
- The type or name of parameter must be different
- If exact match is not found that method is called

3) Static keyword is used to declare variables that belong to class itself. they are shared among all among all instances

4) Static vs Non static
- Static methods can be called directly on the class without creating an instance, while non static methods are called on instances of class
- static methods cannot access instances variables directly, while non static methods can

4) Static keyword in java, in the context of memory management, means that the associated variable or method belongs to the class rather than instances of class.

5) final keyword is used to apply restrictions on variables, methods and classes. When applied to a variable value cannot be changed.

6) In java final keyword is used to methods. When applied to a class, it means the class cannot be subclassed

7) Yes a final keyword cannot be overriden in a sublass. the 'final' keyword affects variables, methods and classes follows
- Final variables cannot be reassigned after initialization
- final methods cannot be overridden by subclasses
- Final classes cannot be subclassed.

8) This keyword represents current reference to an object. This keyword used in Constructors by this reference object.

9) Narrowing means converting bigger data types in smaller datatypes and widening means converting smaller datatypes into bigger types.

10) narrowing :

```
int = (int) double
```

widening :

```
double = int a
```

11) In automatic conversion widening the data is implicitly converted in larger data type.