Assignment 4

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>Documentation is must

1) What is the role of the static keyword in the context of memory?

→ > If we want to share, value of any field inside all the instances of all same class then we should declare field static.

> A field of the class, which gets space inside instance is called as instance variable.

> In otherwords only non-static fields get memory inside instance

> A field of the class which do not get space inside instance is called as class level variable.

> Static variable also get field at class level.

> class level ~~not~~ level gets space during class loading once per class on method area.

> To access class level variable we should use classname & dot operator

```
class program
{
  static int a;
}
class classid
{
  p.s.v.m
  {
    program.a = 10;
  }
}
```

2) Can static method be overloaded and overridden in Java? How static variables shared across multiple instance of class.?

→ > No we can not overload or override static method in java.

> Static method is designed to call on class name.

> Since static method is not designed to call on instance, it doesn't get the reference

> since it do not get this reference, we can not access non-static members directly, inside static method.

> In other word static method can access on the static members of

> & static variable are indeed shared between class instances through its instance independent.

(3) What is the significance of final keyword in java.

→ > After storing value inside variable, if we do not want to modify its value then we should use final modifier.
> In java we can declare local variables final in java.
final int a = 10;
we cannot change the value of the a, this is the significance of final keyword in java.

(5) What are narrowing & widening conversion in java Between primitive type?

→ > Widening: is a concept in which converting small datatype into wider datatype.

```
int num1;
double num2 = (double) num1; // widening.
// Widening main typecasting optinal hai.
```

> narrowing: converting ~~big~~ bigger size of datatype into smaller datatype.

```
double num1 = 10.5;

∴ int num2 = (double) num1; // Narrowing.
```

↓ typecasting is compulsory in downcasting.

4) What is narrowing & widening in java?

→ > Narrowing: converting a higher datatype to a lower datatype is known as narrowing.
> Widening: converting a lower datatype to a higher datatype is called as widening.

4th class.

6) How does java handel potential loss of precission during narrowing conversion?

→ Java does not perform any automatic range checking during narrowing conversion.

7) Explain the concept of automatic widening conversion in Java?

→ Autoboxing is the automatic conversion that the Java compiler makes between the primitive types & their corresponding object wrapper class.

8) What are the implications of narrowing & widening conversions on type compatiblity and data loss?

→ ~~Narrowing~~

>Widening: These are generally safe as they increase capacity of the datatype making it compatible with larger type without loss of information.

>Narrowing: These can lead to data loss.
It is fractional possible loss of data in ~~narrowing~~ narrowing. Narrowing needs explicit casting to make ~~program~~ programmer of potential data.