Q1. write a program to create 3 objects and print its address?

```
public class A {
   public static void main(String args[]) {
    A a1 = new A();
    A a2 = new A();
    A a3 = new A();
    System.out.println(a1);
    System.out.println(a2);
    System.out.println(a3);
   }
}
```

output :-A@1c655221
         A@ee7d9f1
         A@15615099

Q2. Write a program for constructor overloading?

```
public class A {
    A ( )    { // constructor with no args
     System.out.println(1);
    }
    A (int x) { // constructor with one args
     System.out.println(x);
    }
    A (int y, int z)  {//constructor with two args
     System.out.println(y);
     System.out.println(z);
    }
    public static void main(String args[]) {

    A a1 = new A();
    A a2 = new A(100);
    A a3 = new A(200,300);
   }
}
```

OUTPUT:- 1
         100

```
        200
        300
```

Q.3 Program to reverse a gibven string?

```java
public class A {

    public static void main(String args[]) {
      String str = "mike";
      for(int i = str.length()-1;  i >=0; i--){
         System.out.print(str.charAt(i));
      }
    }
}
```

OUTPUT:-ekim

Q.4 count number of time 'a' occured in the given string [stamina]?

```java
public class A {

    public static void main(String args[]) {
       String str = "stamina";
       int count = 0;
       for (int i = 0; i < str.length(); i++){
         if(str.charAt(i)=='a'){
            count ++;
         }
       }
         System.out.println(count);
    }
}
```

OUTPUT: 2

Q.4 Create program with static , non static , local variables and print the outputs?

```java
public class A {
    static int x = 20;
    int y = 10;
    public static void main(String args[]) {
      int z = 200;
      A a1 = new A();
      System.out.println(a1.y);
      System.out.println(A.x);
```

```
        System.out.println(z);


    }
  }
```
OUTPUT:-10
      20
      200

Q.what is polymorphism in java?

Polymorphism means having many forms in single word. We can define polymorphism as the ability of a message to be display in more than
 one form.

Q.5 Write a program of overriding in polymorphism?

when we create method with same name & same parameter but different classes.

```
public class B extends A {
    @Override
    public void test(){
       System.out.println(10);
    }
    public static void main(String args[]) {
       B b1 = new B();
       b1.test();
       }
    }
public class A{
   public void test(){
     System.out.println("from test") ;
   }

}
```

OUTPUT: From Test

Q.6 Write a program of overloading in polymorphism?

When we create multiple method with same name but different parameter so it is method overloading.

```
public class A {
    public void test() {
        System.out.println("From Test");
```

```java
        }
        public void test(int x){
            System.out.println(x);
        }

        public static void main(String args[]) {
            A a1 = new A();
            a1.test();
            a1.test(100);
        }
    }
```

OUTPUT: From Test
            100

Q.7 Create Functional interface implements that using lambdas expression?

```java
 @FunctionalInterface
public interface A {
    public void test();

    }

public class B{
    public static void main(String [] args){
        A a1 = ()->{
            System.out.println(1000);
        };
        a1.test();
    }
}
```

OUTPUT: 1000

Q.8 What is data hiding & write a program?
If we make variable private so that the variable cannot be accessed the outside the class.

```java
 public class A {
```

```
     private int x;
}
```

Q.9 Create 2 interfaces & 1 class with multi level inheritance ?

```
public interface A{
 }

public interface B extends A{
     public static void main(String [] args){
     }
}

public class C implements B{

}
```