Over loading: We create multiple methods with the same name in the class provided these methods has

different type of arguments or different number of argument

Example 1:

```
public class A {

	public void test(){// 0
		System.out.println("From test");
	}

	public void test(int i){//1
		System.out.println(i);
	}

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

Output:

From test

100

Can we create more than one main method in the same class ?

Example 2:

```
public class A {
	public static void main(String[] args) {//1
		System.out.println("From built in main method");
		A.main();
	}
	public static void main(){// 0
		System.out.println("From user defined method");
	}
}
```

Output:

From built in main method

From user defined method

Example 3:

```
public class A {
	public static void main(String[] args) {//1
		A a1 = new A();
		a1.emailSender();
		a1.emailSender("avb324");
	}
	public void emailSender(){//0
		System.out.println("Send marketing emailers");
	}
	public void emailSender(String transactionID){//1
		System.out.println("Sending transactional emailer");
	}
```

}

Output:

Send marketing emailers

Sending transactional emailer

Packages:

1. Packages in java are nothing but folders created to store your programs in organized manner

2. Packages resolves naming convention problems in java, that we can create multiple classes with the

same

3. When you are using a class present in different package then importing would become mandatory

4. When you are accessing the class present in same package then importing it is not required

5. short for importing class is control + shift + o

Example 1:

```
package p1;

public class A {


}
```

Example 2:

```
package p3.p4.p5;


public class C {


}
```

Example 3:

```
package p1;


public class A {
	public int i = 10;
}
```

```
package p2;
import p1.A;
public class B {
	public static void main(String[] args) {
		A a1 = new A();
		System.out.println(a1.i);
	}

}
```

Outout:

10

Example 4:

```
package p1;


public class A {
	public int i = 10;
}
```

```
package p2;
```

```
public class B {
	public static void main(String[] args) {
		p1.A a1 = new p1.A();
		System.out.println(a1.i);
	}

}
```

Output:

10

Example 5:

```
package p1;

public class A {
	public int i = 10;
}
```

```
package p1;

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

}
```

Output:

10

Example 6:

```
package p1;


public class A {
	public int i = 10;
}
```

```
package p2;


import p1.A;


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


	}


}
```

Example 7

```
package p1.p2.p3;


public class D {


}
```

```
package p1;


import p1.p2.p3.D;
```

```
public class A {

	public static void main(String[] args) {
		D d1 = new D();
	}
}
```

Output:

Example 8:

```
package p1;

public class A {

	public static void main(String[] args) {

	}
}
```

```
package p1;

public class C {
	public static void main(String[] args) {

	}

}
```

```
package p2;
```

```
import p1.*;
public class B {
	public static void main(String[] args) {
		A a1 = new A();
		C c1 = new C();

	}

}
```

Example 9:

```
package p1;

public class A {

	public static void main(String[] args) {

	}
}
package p2;
import p1.A;
import p1.p2.p3.D;
public class B {
	public static void main(String[] args) {
		A a1 = new A();
		D d1 = new D();
```

```
	}

}
```

```
package p1.p2.p3;

public class D {

}
```

Access Specifier:

Example 1:

```
package p1;

public class A {

	private int i = 10;
	private void test(){
		System.out.println("From test");
	}
	public static void main(String[] args) {
		A a1 = new A();
		System.out.println(a1.i);
		a1.test();
	}
}
```

Output:

10

From test

Example 2:

```
package p1;


public class A {


	private int i = 10;

	private void test(){

		System.out.println("From test");

	}


}
```

```
package p1;


public class B extends A{

	public static void main(String[] args) {

		B b1 = new B();

		System.out.println(b1.i);

		b1.test();

	}


}
```

Output: Error

Example 3:

```
package p1;


public class A {


	private int i = 10;
	private void test(){
		System.out.println("From test");
	}


}
```

```
package p1;


public class B{
	public static void main(String[] args) {
		A a1 = new A();
		System.out.println(a1.i);
		a1.test();
	}


}
```

Output: Error

Example 4:

```
package p1;


public class A {
```

```
	private int i = 10;
	private void test(){
		System.out.println("From test");
	}

}
```

```
package p2;
import p1.A;
public class C extends A{
	public static void main(String[] args) {
		C c1 = new C();
		System.out.println(c1.i);
		c1.test();
	}
}
```

Output: Error

Example 5:

```
package p1;

public class A {

	private int i = 10;
	private void test(){
		System.out.println("From test");
	}
```

```
}
```

```
package p2;
import p1.A;
public class C{
	public static void main(String[] args) {
		A a1 = new A();
		System.out.println(a1.i);
		a1.test();
	}
}
```

Output: Error

Examle 6:

```
package p1;

public class A {

	int i = 10;
	void test(){
		System.out.println("From test");
	}
	public static void main(String[] args) {
		A a1 = new A();
		System.out.println(a1.i);
```

```
		a1.test();
	}

}
```

Example 7:

```
package p1;

public class A {

	int i = 10;
	void test(){
		System.out.println("From test");
	}

}
```

```
package p1;

public class B extends A{
	public static void main(String[] args) {
		B b1 = new B();
		System.out.println(b1.i);
		b1.test();
	}

}
```

Output:

10

From test

Example 8:

```
package p1;


public class A {


	int i = 10;

	void test(){

		System.out.println("From test");

	}



}
```

```
package p1;


public class B{

	public static void main(String[] args) {

		A a1 = new A();

		System.out.println(a1.i);

		a1.test();

	}


}
```

Output:

10

From test

Example 9:

```
package p1;

public class A {

	int i = 10;
	void test(){
		System.out.println("From test");
	}


}
```

```
package p2;
import p1.A;
public class C extends A{
	public static void main(String[] args) {
		C c1 = new C();
		System.out.println(c1.i);
		c1.test();
	}
}
```

Output: Error

Example 10:

```
package p1;
```

```
public class A {


	int i = 10;
	void test(){
		System.out.println("From test");
	}



}
```

```
package p2;
import p1.A;
public class C {
	public static void main(String[] args) {
		A a1 = new A();
		System.out.println(a1.i);
		a1.test();
	}
}
```

Output: Error