NAME – RAJDEEP JAISWAL	DATE – 16 NOV 2021
BRANCH – BTECH CSE	SEC = 608 A
UID -20BCS2761	
SUB- JAVA Worksheet	

1. Aim/Overview of the practical:

Write a program to differentiate between method overloading and method overriding.

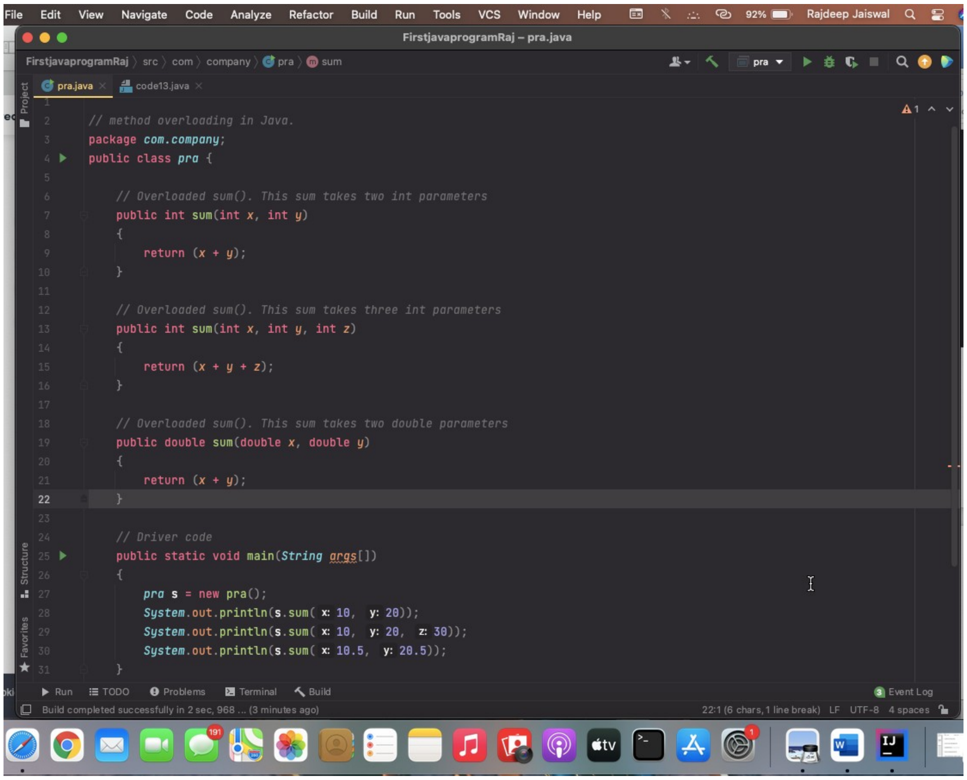
Method Overloading in Java

If a class has multiple methods having same name but different in parameters, it is known as **Method Overloading**.

Code in Text –

```java
// method overloading in Java.
package com.company;
public class pra {

    // Overloaded sum(). This sum takes two int parameters
    public int sum(int x, int y)
    {
        return (x + y);
    }

    // Overloaded sum(). This sum takes three int parameters
    public int sum(int x, int y, int z)
    {
        return (x + y + z);
    }

    // Overloaded sum(). This sum takes two double parameters
    public double sum(double x, double y)
    {
        return (x + y);
    }

    // Driver code
    public static void main(String args[])
    {
        pra s = new pra();
        System.out.println(s.sum(10, 20));
        System.out.println(s.sum(10, 20, 30));
        System.out.println(s.sum(10.5,   20.5));
    }
}
```

Code in Compiler –



```java
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public class pra {

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    public int sum(int x, int y)
    {
        return (x + y);
    }

    // Overloaded sum(). This sum takes three int parameters
    public int sum(int x, int y, int z)
    {
        return (x + y + z);
    }

    // Overloaded sum(). This sum takes two double parameters
    public double sum(double x, double y)
    {
        return (x + y);
    }

    // Driver code
    public static void main(String args[])
    {
        pra s = new pra();
        System.out.println(s.sum( x: 10,  y: 20));
        System.out.println(s.sum( x: 10,  y: 20,  z: 30));
        System.out.println(s.sum( x: 10.5,  y: 20.5));
    }
```
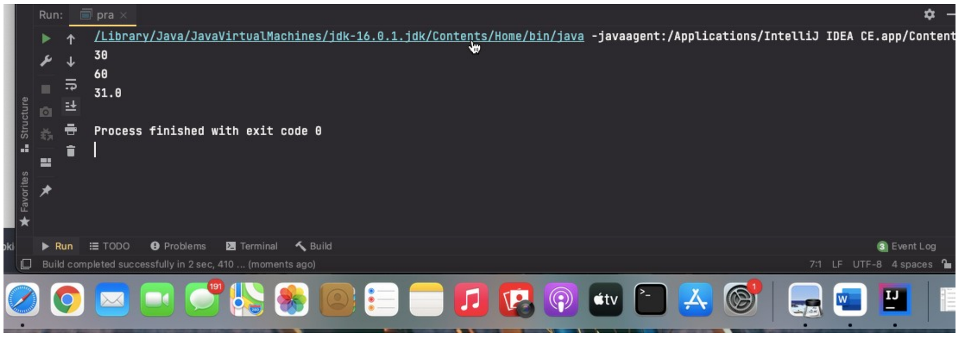

```
Build completed successfully in 2 sec, 968 ... (3 minutes ago)          22:1 (6 chars, 1 line break)  LF  UTF-8  4 spaces
```

OUTPUT –



```
/Library/Java/JavaVirtualMachines/jdk-16.0.1.jdk/Contents/Home/bin/java -javaagent:/Applications/IntelliJ IDEA CE.app/Content
30
60
31.0

Process finished with exit code 0
```

```
Build completed successfully in 2 sec, 410 ... (moments ago)          7:1  LF  UTF-8  4 spaces
```

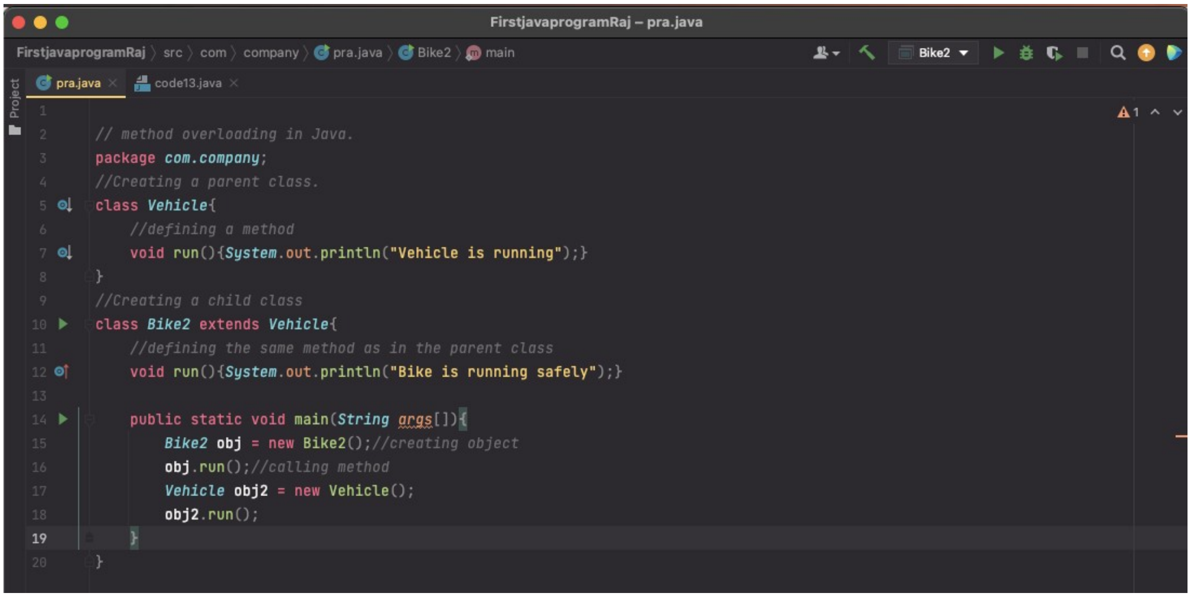
Method Overriding in Java

If subclass (child class) has the same method as declared in the parent class, it is known as **method overriding in Java**.

Code in text –

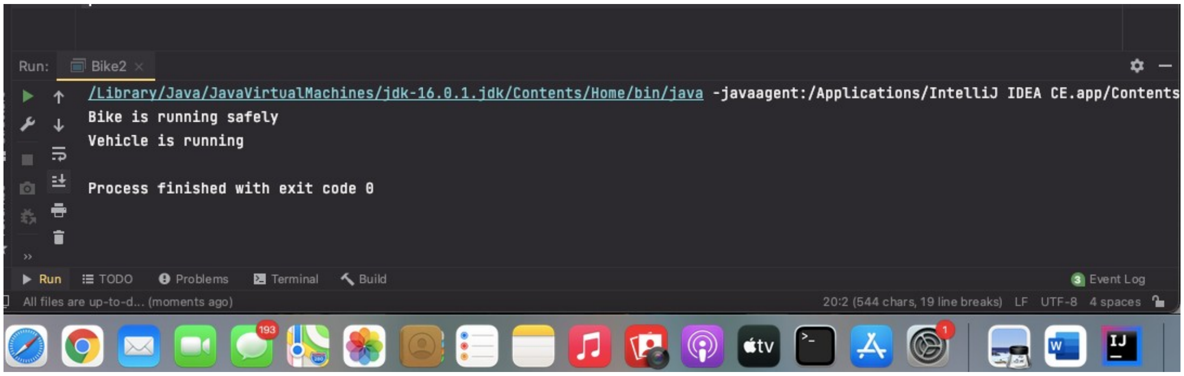
```
// method overloading in Java.
package com.company;
//Creating a parent class.
class Vehicle{
    //defining a method
    void run(){System.out.println("Vehicle is running");}
}
//Creating a child class
class Bike2 extends Vehicle{
    //defining the same method as in the parent class
    void run(){System.out.println("Bike is running safely");}

    public static void main(String args[]){
        Bike2 obj = new Bike2();//creating object
        obj.run();//calling method
        Vehicle obj2 = new Vehicle();
        obj2.run();
    }
}
```

Code in Compiler -

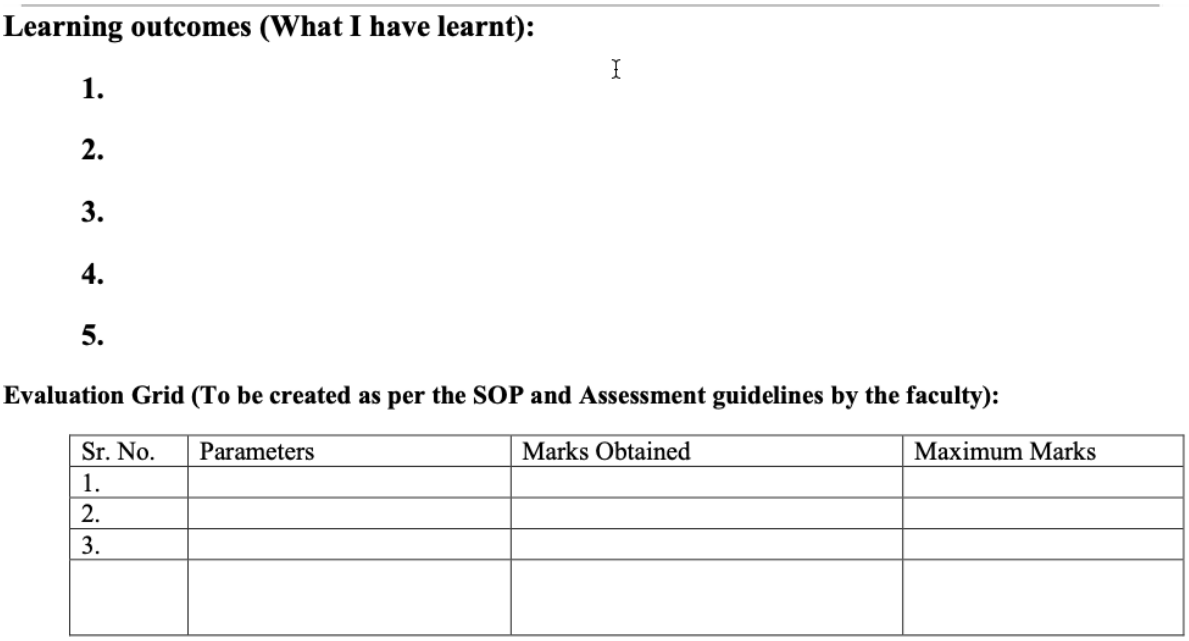

FirstjavaprogramRaj – pra.java
FirstjavaprogramRaj 〉 src 〉 com 〉 company 〉 pra.java 〉 Bike2 〉 main
Bike2
pra.java
code13.java
Project

```java

// method overloading in Java.
package com.company;
//Creating a parent class.
class Vehicle{
    //defining a method
    void run(){System.out.println("Vehicle is running");}
}
//Creating a child class
class Bike2 extends Vehicle{
    //defining the same method as in the parent class
    void run(){System.out.println("Bike is running safely");}

    public static void main(String args[]){
        Bike2 obj = new Bike2();//creating object
        obj.run();//calling method
        Vehicle obj2 = new Vehicle();
        obj2.run();
    }
}
```

OUTPUT –


Run:
Bike2
Run
TODO
Problems
Terminal
Build
Event Log
All files are up-to-d... (moments ago)
20:2 (544 chars, 19 line breaks)
LF
UTF-8
4 spaces

```
/Library/Java/JavaVirtualMachines/jdk-16.0.1.jdk/Contents/Home/bin/java -javaagent:/Applications/IntelliJ IDEA CE.app/Contents
Bike is running safely
Vehicle is running

Process finished with exit code 0
```



Learning outcomes (What I have learnt):

1.

2.

3.

4.

5.

Evaluation Grid (To be created as per the SOP and Assessment guidelines by the faculty):

Sr. No.	Parameters	Marks Obtained	Maximum Marks
1.			
2.			
3.			