

Aim:

Write a class `Box` which contains the data members **width**, **height** and **depth** all of type **double**.

Write the implementation for the below **3 overloaded constructors** in the class `Box` :

- **Box()** - default constructor which initializes all the members with **-1**
- **Box(length)** - parameterized constructor with one argument and initialize all the members with the value in **length**
the members with the corresponding arguments
- **Box(width, height, depth)** - parameterized constructor with three arguments and initialize

Write a method `public double volume()` in the class `Box` to find out the **volume** of the given box.

Write the **main** method within the `Box` class and assume that it will receive either **zero** arguments, or **one** argument or **three** arguments.

For example, if the **main()** method is passed **zero** arguments then the program should print the output as:

```
Volume of Box() is : -1.0
```

Similarly, if the **main()** method is passed **one** argument : **2.34**, then the program should print the output as:

```
Volume of Box(2.34) is : 12.812903999999998
```

then the program should print the output as: Likewise, if the **main()** method is passed **three** arguments :

2.34, 3.45, 1.59, then the program should print the output as:

```
Volume of Box(2.34, 3.45, 1.59) is : 12.836070000000001
```

Note: Please don't change the package name.

Source Code:

q11267/Box.java

```
package q11267;
import java.io.*;
import java.util.*;
class Box
{
    double w,h,d;
    Box()
    {
        d=-1;
        w=-1;
        h=-1;
    }
    Box(double length)
    {
        h=length;
        w=length;
        d=length;
    }
}
```

```

Box(double width,double height,double depth)
{
    w=width;
    h=height;
    d=depth;
}
public double volume()
{
    return w*h*d;
}
public static void main(String a[])
{
    if(a.length==0)
    {
        Box b=new Box();
        System.out.println("Volume of Box() is : "+b.volume());
    }
    else if(a.length==1)
    {
        double len = Double.parseDouble(a[0]);
        Box b=new Box(len);
        System.out.println("Volume of Box("+len+") is : "+b.volume());
    }
    else
    {
        double w= Double.parseDouble(a[0]);
        double h= Double.parseDouble(a[1]);
        double d= Double.parseDouble(a[2]);
        Box b=new Box(w,h,d);
        System.out.println("Volume of Box("+w+", "+h+", "+d+") is : "+b.volume
    );
    }
}
}

```

Execution Results - All test cases have succeeded!

Test Case - 1
User Output
Volume of Box() is : -1.0

Test Case - 2
User Output
Volume of Box(3.0) is : 27.0

Test Case - 3
User Output
Volume of Box(2.3, 3.5, 6.5) is : 52.324999999999996