

```
1  package boxDemo1;
2
3  class Box {
4      double width;
5      double height;
6      double depth;
7  }
8
9  // This class declares an object of type Box.
10 class BoxDemo1 {
11     public static void main(String args[]) {
12         Box mybox = new Box();
13         double vol;
14
15         // assign values to mybox's instance variables
16         mybox.width = 10;
17         mybox.height = 20;
18         mybox.depth = 15;
19
20         // compute volume of box
21         vol = mybox.width * mybox.height * mybox.depth;
22
23         System.out.println("Volume is " + vol);
24     }
25 }
26
```

```
1  package boxDemo2;
2
3  //This program declares two Box objects.
4
5  class Box {
6      double width;
7      double height;
8      double depth;
9  }
10
11 class BoxDemo2 {
12     public static void main(String args[]) {
13         Box mybox1 = new Box();
14         Box mybox2 = new Box();
15         double vol;
16
17         // assign values to mybox1's instance variables
18         mybox1.width = 10;
19         mybox1.height = 20;
20         mybox1.depth = 15;
21
22         /*
23          * assign different values to mybox2's instance variables
24          */
25         mybox2.width = 3;
26         mybox2.height = 6;
27         mybox2.depth = 9;
28
29         // compute volume of first box
30         vol = mybox1.width * mybox1.height * mybox1.depth;
31         System.out.println("Volume is " + vol);
32
33         // compute volume of second box
34         vol = mybox2.width * mybox2.height * mybox2.depth;
35         System.out.println("Volume is " + vol);
36     }
37 }
38
```

```
1  package boxDemo3;
2
3  //This program includes a method inside the box class.
4
5  class Box {
6      double width;
7      double height;
8      double depth;
9
10     // display volume of a box
11     void volume() {
12         System.out.print("Volume is ");
13         System.out.println(width * height * depth);
14     }
15 }
16
17 class BoxDemo3 {
18     public static void main(String args[]) {
19         Box mybox1 = new Box();
20         Box mybox2 = new Box();
21
22         // assign values to mybox1's instance variables
23         mybox1.width = 10;
24         mybox1.height = 20;
25         mybox1.depth = 15;
26
27         /*
28          * assign different values to mybox2's instance variables
29          */
30         mybox2.width = 3;
31         mybox2.height = 6;
32         mybox2.depth = 9;
33
34         // display volume of first box
35         mybox1.volume();
36
37         // display volume of second box
38         mybox2.volume();
39     }
40 }
41
```

```
1  package boxDemo4;
2
3  //Now, volume() returns the volume of a box.
4
5  class Box {
6      double width;
7      double height;
8      double depth;
9
10     // compute and return volume
11     double volume() {
12         return width * height * depth;
13     }
14 }
15
16 class BoxDemo4 {
17     public static void main(String args[]) {
18         Box mybox1 = new Box();
19         Box mybox2 = new Box();
20         double vol;
21
22         // assign values to mybox1's instance variables
23         mybox1.width = 10;
24         mybox1.height = 20;
25         mybox1.depth = 15;
26
27         /*
28          * assign different values to mybox2's instance variables
29          */
30         mybox2.width = 3;
31         mybox2.height = 6;
32         mybox2.depth = 9;
33
34         // get volume of first box
35         vol = mybox1.volume();
36         System.out.println("Volume is " + vol);
37
38         // get volume of second box
39         vol = mybox2.volume();
40         System.out.println("Volume is " + vol);
41     }
42 }
43
```

```
1  package boxDemo5;
2
3  //This program uses a parameterized method.
4
5  class Box {
6      double width;
7      double height;
8      double depth;
9
10     // compute and return volume
11     double volume() {
12         return width * height * depth;
13     }
14
15     // sets dimensions of box
16     void setDim(double w, double h, double d) {
17         width = w;
18         height = h;
19         depth = d;
20     }
21 }
22
23 class BoxDemo5 {
24     public static void main(String args[]) {
25         Box mybox1 = new Box();
26         Box mybox2 = new Box();
27         double vol;
28
29         // initialize each box
30         mybox1.setDim(10, 20, 15);
31         mybox2.setDim(3, 6, 9);
32
33         // get volume of first box
34         vol = mybox1.volume();
35         System.out.println("Volume is " + vol);
36
37         // get volume of second box
38         vol = mybox2.volume();
39         System.out.println("Volume is " + vol);
40     }
41 }
42
```

```
1  package boxDemo6;
2
3  /* Here, Box uses a constructor to initialize the
4     dimensions of a box.
5     */
6  class Box {
7     double width;
8     double height;
9     double depth;
10
11     // This is the constructor for Box.
12     Box() {
13         System.out.println("Constructing Box");
14         width = 10;
15         height = 10;
16         depth = 10;
17     }
18
19     // compute and return volume
20     double volume() {
21         return width * height * depth;
22     }
23 }
24
25 class BoxDemo6 {
26     public static void main(String args[]) {
27         // declare, allocate, and initialize Box objects
28         Box mybox1 = new Box();
29         Box mybox2 = new Box();
30
31         double vol;
32
33         // get volume of first box
34         vol = mybox1.volume();
35         System.out.println("Volume is " + vol);
36
37         // get volume of second box
38         vol = mybox2.volume();
39         System.out.println("Volume is " + vol);
40     }
41 }
42
```

```
1  package boxDemo7;
2
3  /* Here, Box uses a parameterized constructor to
4  initialize the dimensions of a box.
5  */
6  class Box {
7      double width;
8      double height;
9      double depth;
10
11     // This is the constructor for Box.
12     Box(double w, double h, double d) {
13         width = w;
14         height = h;
15         depth = d;
16     }
17
18     // compute and return volume
19     double volume() {
20         return width * height * depth;
21     }
22 }
23
24 class BoxDemo7 {
25     public static void main(String args[]) {
26         // declare, allocate, and initialize Box objects
27         Box mybox1 = new Box(10, 20, 15);
28         Box mybox2 = new Box(3, 6, 9);
29
30         double vol;
31
32         // get volume of first box
33         vol = mybox1.volume();
34         System.out.println("Volume is " + vol);
35
36         // get volume of second box
37         vol = mybox2.volume();
38         System.out.println("Volume is " + vol);
39     }
40 }
41
```

```
1  package boxDemo8;
2
3  /* Here, Box uses a parameterized constructor to
4  initialize the dimensions of a box.
5  */
6  class Box {
7      double width;
8      double height;
9      double depth;
10
11     // This is the constructor for Box.
12     // A redundant use of this.
13     Box(double w, double h, double d) {
14         this.width = w;
15         this.height = h;
16         this.depth = d;
17     }
18
19     // compute and return volume
20     double volume() {
21         return width * height * depth;
22     }
23 }
24
25 class BoxDemo8 {
26     public static void main(String args[]) {
27         // declare, allocate, and initialize Box objects
28         Box mybox1 = new Box(10, 20, 15);
29         Box mybox2 = new Box(3, 6, 9);
30
31         double vol;
32
33         // get volume of first box
34         vol = mybox1.volume();
35         System.out.println("Volume is " + vol);
36
37         // get volume of second box
38         vol = mybox2.volume();
39         System.out.println("Volume is " + vol);
40     }
41 }
42
```



```
1  package boxDemo9;
2
3  /* Here, Box uses a parameterized constructor to
4  initialize the dimensions of a box.
5  */
6  class Box {
7      double width;
8      double height;
9      double depth;
10
11     // This is the constructor for Box.
12     // Use this to resolve name-space collisions.
13     Box(double width, double height, double depth) {
14         this.width = width;
15         this.height = height;
16         this.depth = depth;
17     }
18
19     // compute and return volume
20     double volume() {
21         return width * height * depth;
22     }
23 }
24
25 class BoxDemo9 {
26     public static void main(String args[]) {
27         // declare, allocate, and initialize Box objects
28         Box mybox1 = new Box(10, 20, 15);
29         Box mybox2 = new Box(3, 6, 9);
30
31         double vol;
32
33         // get volume of first box
34         vol = mybox1.volume();
35         System.out.println("Volume is " + vol);
36
37         // get volume of second box
38         vol = mybox2.volume();
39         System.out.println("Volume is " + vol);
40     }
41 }
42
```