

Lecture 28

26 Feb, 2023

Classes & Objects

Class — defines shape & nature of an object.

— It is a template for an object

Object — It is an instance of a class.

Structure of class:

```
class    class name
{
    datatype    instance_variable1;
    datatype    instance_variable2;
    :
    datatype    instance_variable n;

    datatype    methodname( parameter list)
    {
        :
    }
    .
    datatype    methodname( parameter list)
    {
        :
    }
}
```

Class

IT

Name:

P:

C:

B:

Objects

S1

Xerox

Xerox

Xerox

S2

S100

Name: "Arun"

P: 92

C: 92

B: 95

Name: Rohan

P: 73

C: 73

B: 99

Name: Ananya

P: 71

C: 70

B: 69

S1.Name = "Arun"

S1.P = 92

⋮

S2.C = 73

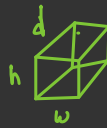
S2.B = 99

⋮

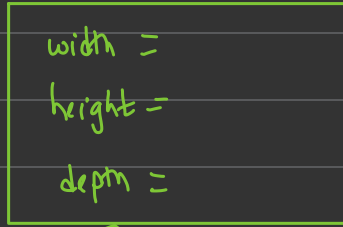
S100.P = 71

⋮

Box

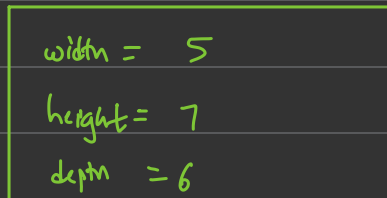
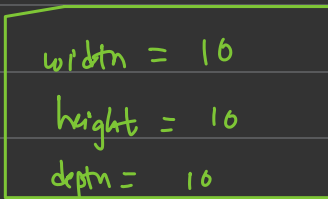


Box \rightarrow class



b1

b2



b1 & b2 are
objects

$$b1.width = 10$$

$$b2.width = 5$$

$$b1.height = 10$$

$$b2.depth = 6$$

$$b1.depth = 10$$

$$b2.height = 7$$



$$vol = b1.width \times b1.height \times b1.depth$$

$$vol = b2.width \times b2.height \times b2.depth$$

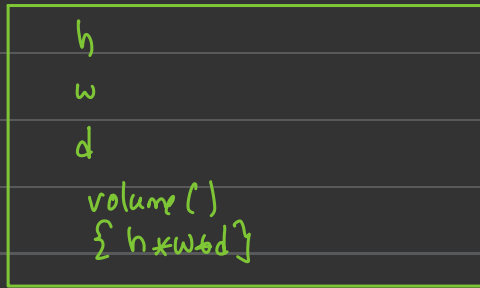
$$= 10 \times 10 \times 10$$

$$= 5 \times 7 \times 6$$

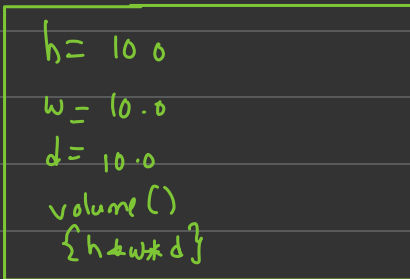
$$= 1000$$

$$= 210$$

Box



b1



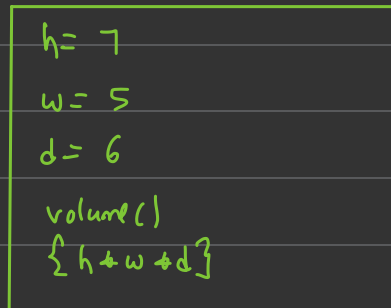
$$b1.h = 10.0$$

$$b1.w = 10.0$$

$$b1.d = 10.0$$

$$b1.volume()$$

b2



_____ X _____