



OOP Lab

Prabhat Kumar Padhy

Lab 6

A Ball class models a moving ball, designed as shown in the class diagram, contains the following members:

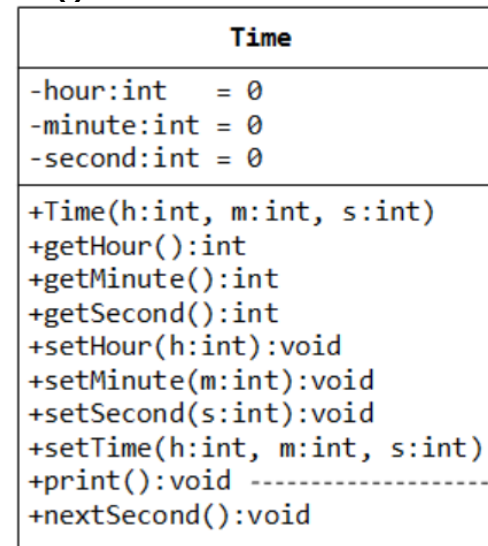
- private data members x, y, xSpeed and ySpeed
- A constructor, and public getters and setters
- A function setXY(), sets the position of the ball
- setXYSpeed() to set the speed of the ball.
- A function move(), increases x and y by xSpeed and ySpeed, respectively.
- A function print(), which prints "Ball @ (x,y) with speed (xSpeed,ySpeed)", to 2 decimal places.

Ball

```
-x:double  
-y:double  
-xspeed:double  
-yspeed:double  
  
+Ball(x:double,  
y=double,  
xspeed:double,yspeed:  
double)  
+getX():double  
+setX(x:double):void  
+getY():double  
+setY(y:double):void  
+getXspeed():double  
+getYspeed():double  
+setXspeed()  
+move()
```

Time class

- Let's write a class called Time, which models a specific instance of time with hour, minute and second values, as shown in the class diagram.
- The class Time contains the following members:
- Three private data members: hour (0-23), minute (0-59) and second (0-59), with default values of 0.
- A public constructor Time(), which initializes the data members hour, minute and second with the values provided by the caller.
- public getters and setters for private data members: getHour(), getMinute(), getSecond(), setHour(), setMinute(), and setSecond().
- A public function setTime() to set the values print() to print this Time instance in "hh:mm:ss", zero-filled, e.g., 01:30:04.
- nextSecond(), which increase this instance by one second. nextSecond() of 23:59:59 shall be 00:00:00.
- If a person class creates an obj of this and enters its own DOB then calculate The no of years to the person



hh:mm:ss
(e.g., 00:01:59)