- Exercise

Let's test our knowledge of constructors with these challenges.

Exercise

Simplify the constructors of the `Widget` class in the code below. Initialize the class members.

```cpp
#include <iostream>

class Widget{
  public:

    // write simplified version of constructor here

    Widget(): width(640), height(480), frame(false), visible(true) {}

    Widget(int w): width(w), height(getHeight(w)), frame(false), visible(true){}

    Widget(int w, int h): width(w), height(h), frame(false), visible(true){}

    void show(){ std::cout << std::boolalpha << width << "x" << height
                           << ", frame: " << frame << ", visible: " << visible
                           << std::endl;
    }
  private:
    int getHeight(int w){ return w*3/4; }
    int width;
    int height;
    bool frame;
    bool visible;
};

int main(){

  std::cout << std::endl;

  Widget wVGA;
  Widget wSVGA(800);
  Widget wHD(1280, 720);
```

```
    wVGA.show();
    wSVGA.show();
    wHD.show();

    std::cout << std::endl;

}
```

Find out the solution in the next lesson.