```
 1   /*
 2   ---------------------------------------------------------------------------------
 3   Laboratory  : labo_01
 4   File        : triangle.h
 5   Author(s)   : Emmanuelle Comte et David Gallay
 6   Date        : 20.02.2020
 7
 8   Purpose     : Declare class Triangle and functions useful for it
 9   Remark(s)   :
10
11                    There is the github repository:
12                    https://github.com/dgheig/Ba2-labo01
13
14   Compiler    : MinGW-g++ 6.3.0 and g++ 7.4.0
15   ---------------------------------------------------------------------------------*/
16
17   #ifndef TRIANGLE_H
18   #define TRIANGLE_H
19
20   #include <iostream>
21   #include "color.h"
22
23   class Triangle {
24
25       public:
26
27           /**
28            * @breif Create a triangle with a base, a height and a color, a base and
29            *        a height, a base or with nothing
30            * @param base   defalut value 0
31            * @param height default value 0
32            * @param color  default value Color()
33            */
34           Triangle(double base = 0, double height = 0, const Color& color = Color());
35
36           /**
37            * @breif Create a triangle with an object color
38            * @param color
39            */
40           Triangle(const Color& color);
41
42           /**
43            * @breif Create a triangle with a color code (enum)
44            * @param code
45            */
46           Triangle(Color::Code code);
47
48           /**
49            * @breif  Get the height of the triangle
50            * @return The height of the triangle
51            */
52           double getHeight() const;
53
54           /**
55            * @breif  Get the base of the triangle
56            * @return The base of the triangle
57            */
58           double getBase() const;
59
60           /**
61            * @breif  Calculat the surface of the triangle
62            * @return The surface of the triangle
63            */
64           double getSurface() const;
65
66           /**
67            * @brief  Get the color of the triangle
68            * @return The color of the triangle
69            */
70           Color getColor() const;
71
```

```
 72              /**
 73               * @breif  Change the height of the triangle
 74               * @param  height
 75               * @return The triangle
 76               */
 77              Triangle& setHeight(double height);
 78
 79              /**
 80               * @breif  Change the base of the triangle
 81               * @param  base
 82               * @return The triangle
 83               */
 84              Triangle& setBase(double base);
 85
 86              /**
 87               * @breif  Change the color of the triangle with an object color
 88               * @param  color
 89               * @return The triangle
 90               */
 91              Triangle& setColor(const Color& color);
 92              /**
 93               * @breif  Change the color of the triangle with a color code (enum)
 94               * @param  color
 95               * @return The triangle
 96               */
 97              Triangle& setColor(Color::Code color);
 98
 99              /**
100               * @breif  Display a triangle
101               * @param  stream
102               * @return The stream
103               */
104              std::ostream& display(std::ostream& stream = std::cout) const;
105
106          private:
107              double mBase;
108              double mHeight;
109              Color  mColor;
110      };
111
112      /**
113       * @breif  Overload of the output stream to display a triangle
114       * @param  stream
115       * @param  triangle
116       * @return The stream
117       */
118      std::ostream& operator<<(std::ostream& stream, const Triangle& triangle);
119
120
121      #endif // TRIANGLE_H
122
```