```
1    #ifndef RECTANGLE_H
2    #define RECTANGLE_H
3
4    #include <iostream>
5    #include "color.h"
6
7    class Rectangle {
8
9        public:
10           /**
11            * @brief Create a rectangle with a width, a height and a color, a width and
12            *        a height, a width or with nothing
13            * @param width  default value 0
14            * @param height default value 0
15            * @param color  default value Color()
16            */
17           Rectangle(double width = 0, double height = 0, const Color& color = Color());
18
19           /**
20            * @brief Create a rectangle with an object color
21            * @param color
22            */
23           Rectangle(const Color& color);
24
25           /**
26            * @brief Create a rectangle with a color code (enum)
27            * @param code
28            */
29           Rectangle(Color::Code code);
30
31           /**
32            * @brief  Get the height of the rectangle
33            * @return The height of the rectangle
34            */
35           double getHeight() const;
36
37           /**
38            * @brief  Get the width of the rectangle
39            * @return The width of the rectangle
40            */
41           double getWidth() const;
42
43           /**
44            * @brief  Calculate the surface of the rectangle
45            * @return The surface f the rectangle
46            */
47           double getSurface() const;
48
49           /**
50            * @brief  Get the color of the rectangle
51            * @return The color of the rectangle
52            */
53           Color getColor() const;
54
55           /**
56            * @brief  Change the height of the rectangle
57            * @param  height
58            * @return The rectangle
59            */
60           Rectangle& setHeight(double height);
61
62           /**
63            * @brief  Change the width of the rectangle
64            * @param  base
65            * @return The rectangle
66            */
67           Rectangle& setWidth(double width);
68
69           /**
70            * @brief  Change the color of the rectangle with an object color
71            * @param  color
```

```
72              * @return The rectangle
73              */
74             Rectangle& setColor(const Color& color);
75
76            /**
77              * @brief  Change the color of the rectangle with a color code (enum)
78              * @param  color
79              * @return The rectangle
80              */
81             Rectangle& setColor(Color::Code color);
82
83            /**
84              * @brief  Display a rectangle
85              * @param  stream
86              * @return The stream
87              */
88             std::ostream& display(std::ostream& stream = std::cout) const;
89
90         private:
91             double mWidth;
92             double mHeight;
93             Color  mColor;
94     };
95
96     /**
97      * @brief  Overload of the output stream to display a rectangle
98      * @param  stream
99      * @param  rectangle
100     * @return The stream
101     */
102    std::ostream& operator<<(std::ostream& stream, const Rectangle& rectangle);
103
104    #endif // RECTANGLE_H
105
```