```
1    /*
2    -------------------------------------------------------------------------------
3    Laboratory  : labo_01
4    File        : square.h
5    Author(s)   : Emmanuelle Comte et David Gallay
6    Date        : 20.02.2020
7
8    Purpose     : Declare class Square 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 SQUARE_H
18   #define SQUARE_H
19
20   #include <iostream>
21   #include "color.h"
22
23   class Square {
24
25       public:
26
27           /**
28            * @brief Create a square with a side and a color, a side or with nothing
29            * @param side  defalut value 0
30            * @param color default value Color()
31            */
32           Square(double side = 0, const Color& color = Color());
33
34           /**
35            * @brief Create a square with an object color
36            * @param color
37            */
38           Square(const Color& color);
39
40           /**
41            * @brief Create a square with a color code (enum)
42            * @param code
43            */
44           Square(Color::Code code);
45
46           /**
47            * @brief  Get the side of the square
48            * @return The side of the square
49            */
50           double getSide() const;
51
52           /**
53            * @brief  Calculate the surface of the square
54            * @return The surface of the square
55            */
56           double getSurface() const;
57
58           /**
59            * @brief  Get the color of the square
60            * @return The color of the square
61            */
62           Color getColor() const;
63
64           /**
65            * @brief  Change the side of the square
66            * @param  side
67            * @return The square
68            */
69           Square& setSide(double side);
70
71           /**
```

```
72             * @brief  Change the color of the square with an object color
73             * @param  color
74             * @return The square
75             */
76            Square& setColor(const Color& color);
77
78            /**
79             * @brief  Change the color of the square with a color code (enum)
80             * @param  color
81             * @return The square
82             */
83            Square& setColor(Color::Code color);
84
85            /**
86             * @brief  Display a square
87             * @param  stream
88             * @return The stream
89             */
90            std::ostream& display(std::ostream& stream = std::cout) const;
91
92        private:
93            double mSide;
94            Color  mColor;
95    };
96
97    /**
98     * @brief  Overload of the output stream to display a square
99     * @param  stream
100     * @param  square
101     * @return The stream
102     */
103    std::ostream& operator<<(std::ostream& stream, const Square& square);
104
105
106    #endif // SQUARE_H
107
```