Task 1

Create a "**Square**" class with a private attribute "**side"**.

- Provide function to calculate **perimeter, diagonal length** and the **area** of the **Square** object.
- Provide necessary public **getter** and **setter** function to assign values to the attribute. Note that setter function will check the validity of the variable (such as the side cannot be less than 0).
- Provide zero and one argument constructor.

Task 2

Add necessary member functions to the class Square to execute the following codes. The description is given in the comment. Print in the console to check whether the functionality matches the description or not.

```
int main()
{
      Square s1,s2(5); // length of side of s1 is 0 unit
      Square s3 = ++s1; // after this s3 has 1 unit side & s1 has 1 unit side
      Square s4 = s1++; // after this s4 has 1 unit side & s1 has 2 unit side
      Square s3 = --s2; // after this s3 has 4 unit side & s2 has 4 unit side
      Square s4 = s2--; // after this s4 has 4 unit side & s2 has 3 unit side
      s4 = s1+s2 // after this s4 has 5 unit side & s1 and s2 remains unchanged
      s3 = s4-s2 // after this s3 has 1 unit side & s4 and s2 remains unchanged

      // == returns true if area is on both side same else false
      if(s4 == s1+s2)
            cout<<"Area is same";
      // == returns true if LHS has bigger area else false
      else if(s4 > s1+s2)
            cout<<"LHS has bigger area";
      // == returns true if LHS has smaller area else false
      else if(s4 < s1+s2)
            cout<<"RHS has bigger area";

      return 0;
}
```

Task 3

Create a class called TAKA. It has an int private attribute one, two, five, ten, twenty. This attribute indicates how many notes of respective attributes are present in the object.

- Provide necessary getter and setter function. Remember that, none should be able to assign less than 0 to any of the attributes.
- Write getTaka() function to get the amount corresponding to the number of notes.
- Overload the == operator which will check whether the taka amount is the same or not, (the number of corresponding notes are not required to be the same.)
- Similarly overload > and < operator.
- Overload + operator which will return a Taka Object. The resulting object will contain the summation of corresponding notes.

Bonus:

- Overload - operator which will also return a Taka object. Plan a intuitive functionality of the - operator.