Question 1

Based on the given program, complete the code segment labelled **'***to complete****'**

```
#include<iostream>
#include<iomanip>
using namespace std;
class Rice
{  float price_per_kg, total_weight;

   public:
        Rice(float w)
        { price_per_kg = 10.0;
          total_weight = w;
        }

        void display_rice()
        {  cout<<"---------------------------------------"<<endl;
           cout<<"\tRice Details"<<endl;
            cout<<fixed<<setprecision(2);
            cout<<"Total weight\t : "<<total_weight<<endl;
            cout<<"Price perkg (RM): "<<price_per_kg<<endl;
            cout<<"Total (RM)\t : "<<total_weight*price_per_kg<<endl;
        }
};

//***to complete****
```

A) Create class ***Product***.

(i) Private data members: *kg* (float)

(ii) Public member functions

- **Rice operator+(….)**
  Parameter: constant *Product* reference object.
  Returns a *Rice* object whose *total_weight* is addition of the weights (kg) of 2 product objects.
- **void setData()**
  Get user input for product's *kg* (weight).

B) In ***main()***

(i) Create two objects of *Product* class named *a* and *b*.

(ii) Call ***setData(…)*** for each object

(iii) Declare a *Rice* object named *h*.

(iv) Assign *h* with the result of *a*'s kg added with *b*'s kg by calling the overloaded operator addition function.

(v) Display *h*'s details by calling ***display_rice().***
[Note: refer to sample output screens below]

Sample Output Screen

```
Enter product's weight (kg) : 5
Enter product's weight (kg) : 3
-------------------------------------
          Rice Details
Total weight       : 8.00
Price perkg (RM) : 10.00
Total (RM)         : 80.00
```

Question 2

Create a program following the instructions below:

A) Define class *Produce*.
- Private data members: ***price*** (float), ***total*** (float) and ***qty*** (integer).
- Public member functions:
  - Define a default constructor to initialize all data members to zeros.
  - Define function ***set_input(….)*** which takes in 2 parameters from *main( )* and initializes them to *price* and *qty* respectively and then calculates *total* [*price* multiply *qty*].
  - Declare class *Bill* as a friend.

B) Define class *Bill*
- Private data member: ***grand_total*** (float).
- Public member functions:
  - Define a default constructor to initialize grand_total to zero.
  - Define function ***display( )*** to display *grand_total*. **[Note: refer to sample output screen]**
  - Define the overloaded ***+=*** function which adds *Produce* object's ***total*** to ***grand_total***. In the function, display *total*. **[Note: refer to sample output screen, i.e. subtotal]**

C) In main( ):
- Declare an object ***bl*** of class *Bill*, and object ***pd*** of class *Produce*.
- In a *do-while* loop:
  - Prompt user to enter price and quantity
  - Using object *pd*, call *set_input(…)*, passing in user input for price and quantity.
  - Using object *BL*, call the function that overloads the "*+=*" operator [Hint: pass in object *pd* as parameter].
  - Prompt user on whether or not to continue looping.
- Using object *BL*, call function *display( )*.

Sample Output Screen

```
Enter price       : RM 10
Enter quantity  : 3
Subtotal          : RM 30
```

```
Continue (y/n)? y

Enter price       : RM 12
Enter quantity  : 3
Subtotal          : RM 36

Continue (y/n)? y

Enter price       : RM 4.50
Enter quantity  : 5
Subtota           : RM 22.50

Continue (y/n)? n

::The grand total of the bill is : RM 88.50
```