

Homework #16_5

請以 c++ 程式編寫以下作業

1. 大大披薩有兩款披薩(圓形與方形), 並各配合三種不同的 Topping(配料), 製做圓形與方形各三種風味不同披薩, 其價格如表一 :

表一 披薩價格表

Pizza (披薩)	Topping		Size (大小)	Prize (價格)
	(配料)	價格		
Circle Pizza (圓披薩)	A	200	直徑 12 寸	圓面積*2 + Topping 價格
	B	300	9 寸	
	C	400		
Square Pizza (方披薩)	X	250	邊長 12 寸	方形面積*2 + Topping 價格
	Y	350	9 寸	
	Z	450		

例如, 買一個 12 寸 Topping A 圓披薩, 其價格為

$$\left(\frac{12}{2}\right)^2 * 3.14 * 2 + 200 = 226.08 + 200 = 426.08$$

1. 請建構類別 `CirclePizza` 與 `SquarePizza`，內含成員變數 `char topping`, `int size`，成員函數 `float prize()`。
2. 若買一個 12 寸 Topping B 圓披薩與一個 12 寸 Topping Y 圓披薩，則為多少元？

參考案：二檔案



hw16_5.cpp
C++ Source File
1 KB



Pizza.h
C Header File
2 KB

Pizza.h

```
hw16_5.cpp Pizza.h
1 class CirclePizza {
2 public:
3     CirclePizza(){
4         _topping = '0';
5         _size = 0;
6     };
7     CirclePizza(char topping, int size){
8         _topping = topping;
9         _size = size;
10    };
11    char topping() {return _topping;}
12    int size() {return _size;}
13    double prize(){
14        double tmp = 2.0*3.14*(_size/2)*(_size/2) ;
15        double p = 0.0;
16        if( _topping == 'A' ) p = 200;
17        else if( _topping == 'B' ) p = 300;
18        else if( _topping == 'C' ) p = 400;
19        return tmp+p;
20    }
21 private:
22     char _topping;
23     int _size;
24 };
25
26 class SquarePizza {
27 public:
28     SquarePizza(){
29         _topping = '0';
30         _size = 0;
31     };
32     SquarePizza(char topping, int size){
33         _topping = topping;
34         _size = size;
35     };
36     char topping() {return _topping;}
37     int size() {return _size;}
38     double prize(){
39         double tmp = 2.0*_size*_size;
40         double p = 0.0;
41         if( _topping == 'X' ) p = 250;
42         else if( _topping == 'Y' ) p = 350;
43         else if( _topping == 'Z' ) p = 450;
44         return tmp+p;
45     }
46 private:
47     char _topping;
48     int _size;
49 };
50
```

Hw16_5.cpp

```
hw16_5.cpp Pizza.h
1  #include <iostream>
2  #include "Pizza.h"
3  using namespace std;
4
5  int main() {
6      CirclePizza A('B',12);
7      SquarePizza B('Y',12);
8      cout << "Total Prize = " << A.prize() + B.prize() <<endl;
9      return 0;
10 }
11
```

執行結果

```
C:\J:\Documents and Settings\tahsiang\桌面\課\VC12\ch16\hw16_5(class
Total Prize = 1164.08
-----
Process exited with return value 0
Press any key to continue . . .
```