

This is the problem 14(a) in Chapter 11 of the textbook. You are given the following code. (這題目是教科書 11 章的第 14(a)題, 你一定要用以下的程式, 然後 CCircle class 我沒有寫任何的程式, 所以請把 CCircle class 的程式補滿, 讓你的程式能有以下紅色字體的輸出)

```
interface iVolume
{
    public void showData();
    public double vol();
}
abstract class CSphere implements iVolume
{
    final double PI=3.14;
    protected int x;
    protected int y;
}
class CCircle extends CSphere
{
}
public class hw11_14
{
    Public static void main(String args[])
    {
        CCircle cir=new CCircle(8,6,2);
        cir.showData();
    }
}
```

(a) You are asked to write the code for CCircle class, so as to make sure the output of this program is (請保證你的程式能有以下紅色字體的輸出):

center: (8, 6)

radius: 2

volume: 33.493333333 (volume can be calculated by using $(4/3)\pi r^2$)

This is the problem 14(c) in Chapter 11 of the textbook. You are given the following

code. (這題目是教科書 11 章的第 14(c)題, 你一定要用以下的程式)

```
interface iVolume
{
    public void showData();
    public double vol();
}
abstract class CSphere implements iVolume
{
    final double PI=3.14;
    protected int x;
    protected int y;
}
class CCircle extends CSphere
{
}
public class hw11_14
{
    Public static void main(String args[])
    {
        CCircle cir=new CCircle(8,6,2);
        cir.showData();
    }
}
```

(b) Please don't define showData() and vol() in CCircle class. Instead, please define them in CSphere class. You are asked to make sure, after this rewriting, the output of the program still looks the same (把 showData()與 vol()都改放到 CSphere class

那邊之後, 請保證你的程式能有以下紅色字體的輸出).

center: (8, 6)

radius: 2

volume: 33.493333333 (*volume can be calculated by using $(4/3)\pi r^2$*)