Introduction to Computers and Programming LAB-2 2015/09/23

✦ You cannot use **Selection Statements** (if, else …) or **Iteration Statements** (for, while) even if you have learned them.

✦ Your output must be in our sample output format.

✦ If you cannot finish it in time, you should go to EC242 demo your lab work at next Wed. 16:00~17:00.

1. Please finish the following program whose output is the same as the sample image.

```c
#include<stdio.h>
#include<stdlib.h>
int main()
{
    int year=2015, month=9, day=23;
    float temperature = 23.5;
   /* Please write your code here */
    return 0;

}
```

```
"Date"          2015\9\23
"Temperature"   23.500000
請按任意鍵繼續 . . .
```

2. Write a program that ask the user to enter a U.S dollar amount and then shows how to pay that amount using the smallest number of $20, $10, $5 and $1

```
Enter a dollar amount: 93
$20 bills: 4
$10 bills: 1
 $5 bills: 0
 $1 bills: 3
```
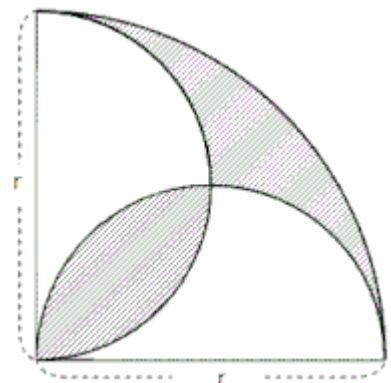
3. The program will ask user to input r, and show the area of the shadowed part.

   NOTE:
   ● Please practice using the Macro Definition
     to define the value of π as 3.14159,

```
Please enter r: 10
The area of the shadowed part is 28.539750

Process returned 0 (0x0)   execution time : 9.114 s
Press any key to continue.
```

4. Write a program that:
   - Find the function of a line **(line1)** by **two points (x1, y1) (x2, y2).**
   - **Line2** is a line which contains point **(x3, y3)** perpendicular to the **line1**.
     Find the intersection point of **line1** and **line2**.

```
please find the line1 formula: y = ax+b
please input any point(x1,y1):
input x1:2
input y1:1
please input any point(x2,y2):
input x2:3
input y2:2
this formula: y = 1.000000x-1.000000

please input any point(x3,y3):
input x3:1
input y3:2
the line2 which contains (1.000,2.000) perpendicular to the line1,
please find the intersection point of line1 and line2:
(2.000000,1.000000)
Process returned 0 (0x0)   execution time : 11.355 s
Press any key to continue.
```

```
please find the line1 formula: y = ax+b
please input any point(x1,y1):
input x1:1
input y1:2
please input any point(x2,y2):
input x2:2
input y2:4
this formula: y = 2.000000x+0.000000

please input any point(x3,y3):
input x3:2
input y3:-1
the line2 which contains (2.000,-1.000) perpendicular to the line1,
please find the intersection point of line1 and line2:
(0.000000,0.000000)
Process returned 0 (0x0)   execution time : 10.928 s
Press any key to continue.
```

5. (Bonus) Write a program that asks the user to enter a float number and rounds it to the nearest integer.

```
Enter a float number: 200.5
The number after rounding is: 201
-----------------------------------
Process exited with return value 0
Press any key to continue . . .
```

```
Enter a float number: 2.499
The number after rounding is: 2
-----------------------------------
Process exited with return value 0
Press any key to continue . . .
```