

Homework #3_4

- x 與 r 分別為本金與年利率，本利和為
 $y = x(1+r)^n$ ， n 為年 (如 第一年 $n=1$, 第二年 $n=2$, 第三年 $n=3$, 第四年 $n=4$,)
- 鍵入 $x = 1000$, $r = 0.01$
請分別列印出 第一年到第六年 本利和

English version of Home Work #3_4

- Variables x and r are principle and annual interest rate, accumulated amount y is $y = x(1+r)^n$, and n is the number of years. For example, $n = 1$ is the first year, $n = 2$ is the second year, and $n = 3$ is the third year, and so on.
- Please print out all accumulated amounts y in 6 years.

● 提示：

第1年 本利和 $y_1 = x(1+r)$

第2年 本利和 $y_2 = x(1+r)^2 = x(1+r)(1+r) = y_1(1+r)$

第3年 本利和 $y_3 = x(1+r)^3 = y_2(1+r)$

第4年 本利和 $y_4 = x(1+r)^4 = y_3(1+r)$

...

第 n 年 本利和 $y_n = x(1+r)^n = y_{n-1}(1+r)$

`y = ();` //請填入合適的初始值

`for(i=1; i<=6; i++){`

`y = () * (1+ r);` //請填入合適的程式

`print(“year = %d, 本利和= %f \n”, i, y);`

//印出本利和

`}`

● Hint

1st year accumulated amount $y_1 = x(1+r)$

2nd year accumulated amount $y_2 = x(1+r)^2 = x(1+r)$

$(1+r) = y_1(1+r)$

3rd year accumulated amount $y_3 = x(1+r)^3 = y_2(1+r)$

4rd year accumulated amount $y_4 = x(1+r)^4 = y_3(1+r)$

...

n-th year accumulated amount

$$y_n = x(1+r)^n = y_{n-1}(1+r)$$

`y = (); //enter the proper value`

`for(i=1; i<=6; i++){`

`y = () * (1+ r); //write a proper statement`

`print(“year = %d, accumulated amount= %f \n”, i,`

`y); //print out accumulated amount`

`}`