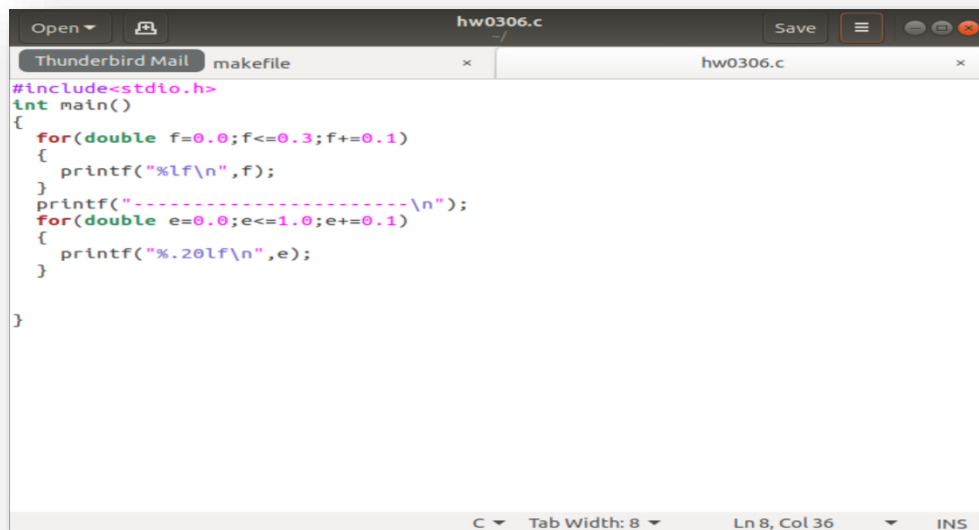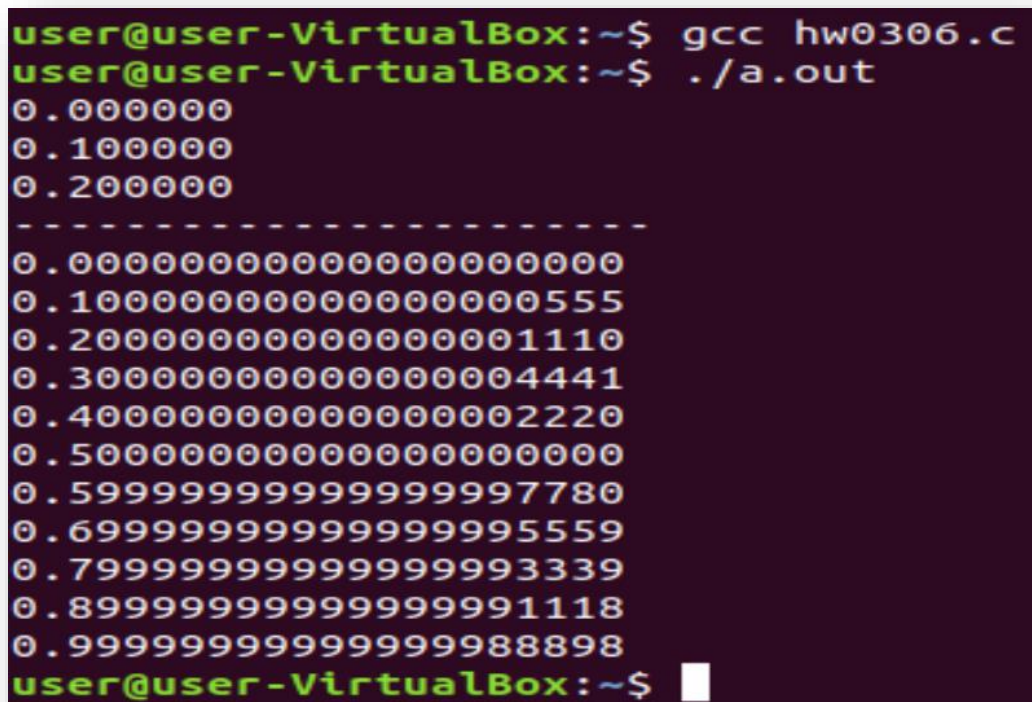HW0306

為什麼" for(double f=0.0;f<=0.3;f+=0.1)" 迴圈只會執行三次?

因為 double 的計算不夠精確，所以計算 0.0+0.1+0.1+0.1 不會等

於 0，假設在下面做一組迴圈加法，並取小數後十位為答案，會發

現 0.3 後的小數不全為 0，故 for(double f=0.0;f<=0.3;f+=0.1)"

迴圈只會執行三次

```c
#include<stdio.h>
int main()
{
	for(double f=0.0;f<=0.3;f+=0.1)
	{
		printf("%lf\n",f);
	}
	printf("----------------------\n");
	for(double e=0.0;e<=1.0;e+=0.1)
	{
		printf("%.20lf\n",e);
	}

}
```

```
user@user-VirtualBox:~$ gcc hw0306.c
user@user-VirtualBox:~$ ./a.out
0.000000
0.100000
0.200000
----------------------
0.00000000000000000000
0.10000000000000000555
0.20000000000000001110
0.30000000000000004441
0.40000000000000002220
0.50000000000000000000
0.59999999999999997780
0.69999999999999995559
0.79999999999999993339
0.89999999999999991118
0.99999999999999988898
user@user-VirtualBox:~$ 
```