有最簡易的 Makefile，輸入 **make** 後，會有 **gcc hw0101.c -o hw0101**。
接著輸入**./hw0101** 執行程式。
最開始會有選單如下

```
Please enter the number what you want to do?
 ----------------------------------
|(0)Exit                           |
|(1)Print all polynomials          |
|(2)Creat new polynomial           |
|(3)Add element to polynomial      |
|(4)Remove element from polynomial |
|(5)Print coefficients             |
|(6)Add Polynomial                 |
|(7)Subtract Polynomials           |
|(8)Multiply Polynomials           |
|(9)Divide Polynomials             |
 ----------------------------------
    Your choice:
```

輸入 **0** 會退出程式。
輸入 **1** 可以印出所有已存在的多項式，次方由大到小排列。
輸入 **2** 可以建立新的多項式，輸入格式為：

1. 多項式名字（不超過 49 字元）
2. 總共幾項
3. 係數(enter)次方(enter)，過程中皆有提示字句

（例）實作如下

先選擇建立多項式，並按照提示輸入

```
    Your choice:  2
Enter the name for the new polynomial: p1
Enter the number of terms in the polynomial: 2
Enter coefficient for term 1: 1
Enter power for term 1: 2
Enter coefficient for term 2: 1
Enter power for term 2: 0
Please enter the number what you want to do?
```

再用印出多項是來查看是否建立成功

```
    Your choice: 1
p1:
1.000000x^2+1.000000x^0
```

輸入 **3** 可以在指定多項式建立新的元素

1. 指定一個多項式
2. 選擇要增加的元素次方為何（若已經存在，將出現無法增加的字樣，並回到選單）
3. 選擇要增加的元素係數為何

（例）實作如下

以存在範例

```
    Your choice: 3
Select a polynomial to add an element to (1-1): 1
Enter the power for the new term: 2
Term with power 2 already exists. Cannot add.
```

建立成功範例

```
    Your choice: 3
Select a polynomial to add an element to (1-1): 1
Enter the power for the new term: 3
Enter coefficient for term x^3: 1
New term with power 3 has been added.
```

```
     Your choice: 1
p1:
1.000000x^3+1.000000x^2+1.000000x^0
```

輸入 **4** 可以在指定多項式中移除元素

1. 指定一個多項式
2. 選擇要移除的元素次方為何（若不存在，將出現無法移除的字樣，並回到選單）

（例）實作如下

不存在範例

```
    Your choice: 4
Select a polynomial to remove an element from (1-1): 1
Enter the power of the term you want to remove: 5
Term with power 5 not found in the polynomial.
```

移除成功範例

```
    Your choice: 4
Select a polynomial to remove an element from (1-1): 1
Enter the power of the term you want to remove: 3
Term with power 3 has been removed from the polynomial.
```

```
Your choice: 1
p1:
1.000000x^2+1.000000x^0
```

輸入 **5** 可以顯示，指定多項式的特定項的係數值

1. 輸入代號來選擇一個多項式（前方有代號）
2. 選擇何種次方

（例）實作如下

```
Your choice: 5
Which polynomial's coefficient you want to print:
(0)p1:
1.000000x^2+1.000000x^0
Your choice: 0
Which term: 2
coefficient is: 1.000000
```

輸入 **6** 可以進行多項式加法（不儲存，僅顯示）

選擇兩多項式，輸入格式為：p1 p2（p1、p2 請輸入多項式印出的代號）

輸入 **7** 可以進行多項式減法（不儲存，僅顯示）

選擇兩多項式，輸入格式為：p1 p2（p1、p2 請輸入多項式印出的代號）

輸入 **8** 可以進行多項式乘法（不儲存，僅顯示）

選擇兩多項式，輸入格式為：p1 p2（p1、p2 請輸入多項式印出的代號）

輸入 **9** 可以進行多項式除法，並算出商式、餘式（不儲存，僅顯示）

選擇兩多項式，輸入格式為：p1 p2（p1、p2 請輸入多項式印出的代號）

（例）實作如下

先有 p1、p2 兩多項式

```
Your choice: 1
p1:
1.000000x^2
p2:
3.000000x^4+1.000000x^2
```

加法

```
Your choice: 6
Which two polynomial you want to add(1-2)1 2
3.000000x^4+2.000000x^2
```

减法

```
    Your choice: 7
Which two polynomial you want to subtract(1-2)1 2
(-3.000000)x^4
```

```
    Your choice: 7
Which two polynomial you want to subtract(1-2)2 1
3.000000x^4
```

乘法

```
    Your choice: 8
Which two polynomial you want to multiply(1-2)1 2
3.000000x^6+1.000000x^4
```

除法

```
    Your choice: 9
Which two polynomial you want to divide(1-2)1 2
Q:
0
R:
1.000000*x^2
```

```
    Your choice: 9
Which two polynomial you want to divide(1-2)2 1
Q:
3.000000x^2 + 1.000000x^0
R:
0
```