Introduction to Programming EE2310　Homework 2-1

103061142 楊淳佑

Problem

Use float and double to test the formula below:

$$\sin(u)+\sin(v)=2\sin(\frac{(u+v)}{2})\cos(\frac{(u-v)}{2})$$

Program Flow & Structure

```
int main()
      cin : float f_u&f_v (Line 9
    → calculate f_T1&f_T2 in float (Line 10~11
    → cin : double d_u&d_v (Line 16
    → calculate d_T1&d_T2 in double (Line 18
    → return 0
```

Discussion

- When u and v are bigger than the limit of float, it will generate overflow, and cause the value incorrect. But double can save the value correctly. The difference between the value range of float and double causes the difference when we input numbers that exceeded the limit of float.

Output Result