## Preprocessing With Include Guard

**header1.h**

```c
#ifndef HEADER1_H
#define HEADER1_H
A1;
B1;
C1;
#endif
```

**header2.h**

```c
#ifndef HEADER2_H
#define HEADER2_H
#include "header1.h"
A2;
B2;
C2;
#endif
```

**client.cpp**

```c
#include "header1.h"
#include "header2.h"
A3;
B3;
C3;
```

### Step 1.

```c
#include "header1.h"
#include "header2.h"
A3;
B3;
C3;
```

### Step 2.

**HEADER1_H defined**

```c
A1;
B1;
C1;
```

**HEADER2_H defined**

```c
A2;
B2;
C2;
```

### Step 3.

**HEADER1_H defined**

```c
A1;
B1;
C1;
```

**HEADER2_H defined**

```c
#include "header1.h"
A3;
B3;
C3;
```

### Step 4.

**HEADER1_H defined**

```c
A1;
B1;
C1;
```

**HEADER2_H defined**

```c
A2;
B2;
C2;
```

Because `HEADER1_H` has been defined already.