Introduction to Programming

Lecture 13:

Miscellaneous Notes

File postfix

- Most compilers consider the source code file postfix
  - .c → C code
  - .cc , .cpp → C++ Code

A program in multiple file

- We can create our ".h" files
- func.c

```
#include <stdio.h>
void f(int x) {
        printf("%d", x);
}
```

- func.h

```
void f(int);
```

- main.c

```
#include "func.h"
int main(void){
    f(20);
}
```

Preprocessor Command

- We can use preprocessor commands to control how our code is compiled
  - Conditional compilation
- Main preprocessor commands
  - #define XYZ → define XYZ as a preprocessor definition (value is not important)
  - #ifdef XYZ → is true if XYZ is defined
  - #ifndef XYZ → is true if XYZ is not defined
  - #if XYZ → is true if XYZ != 0
  - #endif → End of a if block

Preprocessor Command

```
#include <stdio.h>
#define ABC
#define XYZ 1
int main(){
#ifdef ABC
  printf("ABC is defined \n");
#endif
  printf ("I am here\n");
#if XYZ
  printf("XYZ is defined and is not 0\n");
#endif
}
```

Use Preprocess Commands for Debugging

```
#include <stdio.h>
#define DEBUG 1

int f(int x){
#if DEBUG
    printf("We are in file = %s, in function %s, in line
   %d\n", __FILE__, __func__, __LINE__);
#endif
    return x;
}

int main(void){
#if DEBUG
    printf("We are in file = %s, in function %s, in line
   %d\n", __FILE__, __func__, __LINE__);
#endif
    f(10);
    getchar();
    return 0;
```

Reference

- Reading Assignment: Chapters 13 and 14 of “C How to Program”