

Miscellaneous

Fundamentals of Computer and Programming
Fall 2020

Bahador Bakhshi

CE & IT Department, Amirkabir University of Technology



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”

