Lec 8 Functions

Why do we need function?

How to **define** function?

type func_name(type_1 name1, ..., type_n name_n)

return type   name of the function   input names and their types

Questions to think about

- Can we define two functions with the same name?

- How to define a function to handle different data type correctly?

- Can we define a function after the main function?

Can we define two functions with the same name?

- **Yes**, if the input types for the two functions are different; otherwise, **no**.

Can we define a function after the main function?

- **Yes**, if we **declare** the function **before** the main function.

- **Declaring** a function means specifying a type for what is named, no details needs to be provided for the function body.

- Example: double f(double);

- It simply tells the compiler that you can use the name, it doesn't allocate memory.

Definition vs Declaration

- Definition

  - the implementation

  - provide function body

  - consume memory

- Declaration

  - the interface

  - only supply argument types and return type

  - doesn't consume memory

Example

- Write a function to convert string to integer.

- Examples:

  - "-123" -> -123

  - "+45" -> 45

  - "67" -> 67

  - "   089" -> 89