

# Constants

Last updated 6/15/23

These slides introduce constants in C

# Constants

- Constant
  - Symbolic representation for a value - name
  - Stored in memory (program)
  - Cannot be modified during execution
- Since it requires space in memory it must have a type to tell the compiler how much space to reserve

# Constants

- Constant Types
  - Same as variable types + string
  - Boolean
  - Character
  - Integer
  - Real - Floating Point – default is double
  - Complex - Floating Point – default is double

# Constants

- Constant Types
  - String
    - Series of characters enclosed in double quotes
    - “this is a string constant”
  - Special considerations
    - “” – empty string
    - “\0” – null character

# Constants

- Defining Constants

- Literal

- un-named constant

- ```
a = b + 5;           // 5 is a literal constant
```

- Defined

- Pre-processor constant

- ```
#define INTEREST_RATE 0.01
```

- Note – ALL CAPS – good practice

- Memory

- Similar to a variable but cannot be changed

- `const type identifier = value;`

- ```
const float interestRate = 0.01;
```

- **Only time we will declare and initialize together**