

# CINREADER

## CSCI 20

Luke Sathrum

# This Video

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- Console Input with `CinReader`

# Problems with Input

- Sometimes people input the wrong literal when we use `cin`
- Such as
  - ▣ `int num;`
  - ▣ `cin >> num;`
  - ▣ The user inputs 'Y'
  - ▣ To handle this we have a class that we will use in all of our programs called `CinReader`
    - Created by Boyd Trolinger

# CinReader

- There are two files for CinReader
  - ▣ CinReader.cpp
  - ▣ CinReader.h
- You will need to add these two files to your program

# CinReader - Using

- After adding the files you need to include CinReader

```
#include "CinReader.h"
```

- You then need to create an instance of CinReader inside main()

```
CinReader reader;
```

# Member Functions – `readInt()`

- `readInt()`
- This will get an Integer from the user.
- Example

```
int int_var;  
int_var = reader.readInt();
```
- We can also tell it what range we want the numbers to be

```
int_var = reader.readInt(1, 10);
```

  - ▣ Number must be greater than or equal to 1 and less than or equal to 10

# Member Functions – `readDouble()`

- Reads a Double from the user
- Example

```
double double_var;  
double_var = reader.readDouble();
```

# Member Functions – `readBool()`

- Read a Boolean from the user
- Example
  - `bool bool_var;`
  - `bool_var = reader.readBool();`
- It will accept the following inputs (case-insensitive)
  - T
  - F
  - True
  - False



# Member Functions – `readChar()`

- Reads a single character from the user
- Example
  - ▣ `char char_var;`
  - ▣ `char_var = reader.readChar();`
- We can also limit our characters (case-sensitive)
  - ▣ `char_var = reader.readChar("abcdef");`
  - ▣ This limits it to only lowercase a, b, c, d, e, f

# Member Functions – `readString()`

- Gets a string from the user
- Example
  - ▣ `string string_var = reader.readString();`
- We can limit by
  - ▣ Not allowing an empty string ""
    - `string_var = reader.readString(false);`
  - ▣ Allowing only a certain length
    - `string_var = reader.readString(true, 5);`
    - This limits to 5 characters, also allowing the empty string ""

# Summary

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- **CinReader** makes console input easy
- There are lots of member functions to get certain types
  - ▣ Integers
  - ▣ Floating-Point Numbers
  - ▣ Booleans
  - ▣ Characters
  - ▣ Strings

# Sample Code

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- Example of input using `CinReader`
  - ▣ `cinReader_example.cpp`