CS 160
CS Orientation
Starting C++
What is needed in a C++ program?

/* Program Name: hello.cpp
   Description: prints hello world */

#include <iostream>  //include the io library
using namespace std;

int main()
{
    cout << "Hello World" << endl;
    return 0;
}
Let’s compare Python and C++...

• Compiled vs. Interpreted
  – Python
    • python3 prog.py
  – C++
    • g++ prog.cpp
    • ./a.out

produces
a.out executable
Let’s compare Python and C++...

- **Input/Output**
  - **Python**
    - Output – print();
    - Input – input(); #both prompt and read as string
  - **C++**
    - Output – cout «;
    - Input – prompt and read data with two steps
    - cin >> var; //reads the type you need
Start with a template...

```cpp
#include <iostream>

using namespace std;

int main() {

    return 0;
}

"lab.cpp" 9L, 76C
3,1 All

OSU Oregon State University
Primitive Types

- int, bool, char, float, double, long, short

What does this mean?

You have to declare before you use!!!

int var;
long var;
by default these are signed
Let’s do an example...

```cpp
#include <iostream>
using namespace std;

int main() {
    int var;
    cout << "Give me an integer value: ";
    cin >> var;
    cout << var << endl;
    return 0;
}
```
Common Mistakes

• Missing the semicolons
• Missing the curly braces
• Forgetting to have a main
• Use >> for cout and << for cin
• Use single quotes for strings
• Forget to initialize variable before you use it
Control Structures

- Python
  ```python
  if():
    stmt;
  elif():
    stmt;
  ```

- C++
  ```
  if() {
    stmt;
  }
  else if() {
    stmt;
  }
  ```