

CS106B: C++

孙瑞熙

Class notes

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1 Basic knowledge

- Type

1. `int a;` *Declare a new integer variable*
2. `char b = 'x'` *b is a char*
3. `double d = 1.05` *d is a double, a type used to represent decimal numbers*
4. **Cannot redefine a variable to be another type!**
5. **Do not need the type when re-assigning a variable!**

- Anatomy of a function **(Only return one type and one value.)**

```
returnType functionName(varType parameter1, varType parameter2, ...);

returnType functionName(varType parameter1, varType parameter2, ...) {}
    returnType variable = /* Some fancy code. */
    /* Some more code to actually do things. */

return variable;
}
```

- Function Example **(A function must always be defined before it is called.)**

```
double average(double a, double b) { //parameter
    double sum= a + b;
    return sum / 2; //return value
}
```

```

}

int main() {
    double mid= average(10.6, 7.2); //arguments
    dout << mid << endl;
    return 0;
}

```

- Common string methods

1. `s.append(str)`: *add text str to the end of a string*
2. `s.replace(index, len, str)`: *replaces len char at index with text str*
3. `s.substr(start, length)`: *the next length characters beginning at start(inclusive); If length ommitted, grabs till end of string*
4. **C string have no methods, this is why you cannot do something like "hi".length() in C++. Beware of C string!! (C string is like a word in " ")**
5. `string("text")` *converts the C string into a C++ string*
6. `string.c_str()` *return a C string from a C++ string*