

Today

Week 7

55

- Practice
- Talk about the Final Exam.

Prototypes

```
void read-info (char name [1],  
               char email [1],  
               int & age);
```

main

```
char name [21];  
char email [121];  
int age;  
read-info (name, email, age); // call
```

read-info implementation

```
void read_info (char name [],  
                char Email [],  
                int & an_age)
```

```
{  
    cout << "Please enter your name" << endl;  
    cin.get (name, 21, '\n');  
    cin.ignore (100, '\n');  
    cout << "Please .... email" << endl;  
    cin.width (12);  
    cin >> Email;  
    cin.ignore (100, '\n');  
    cin >> an_age;  
    cin.get ();  
}
```

cout << endl;

main

```
char stuff [131];
```

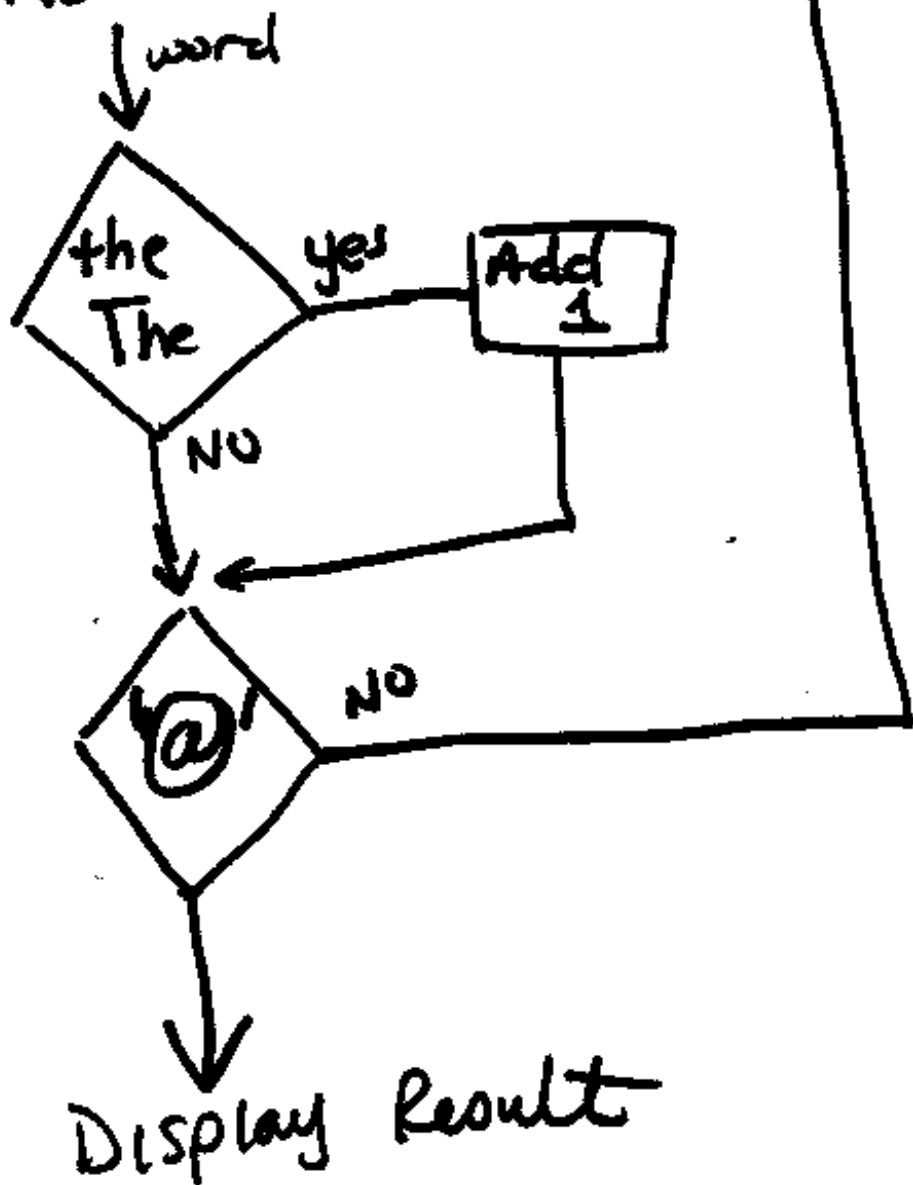


```
cin.get (stuff, 131, '\n');
```

```
{  
cout << "Email? "; // what was here is  
cin.get (stuff, 131);  
} //cin.ignore.....  
gone!
```

✓
Welcome

✓
Read a word



Display Result

```
#include <iostream>
using namespace std;
const int MAX = 31;
void welcome();
void read_word(char [31]);
int main()
{
    char sample[MAX];
    welcome(); //using this function
    read_word(sample);
    cout << sample;
    cin.get();
    return 0;
}
```

int count = φ;

cout << "count is: " << count;

The diagram consists of three arrows: one from 'int count = φ;' to 'welcome()', one from 'int count = φ;' to 'read_word(sample);', and one from 'cout << sample;' to 'read_word(sample);'.

INclass

Tuesday
Dec 7th

10:15-12:05
NH 454

ONLINE

Friday
Dec 13th

12-1:50
CH 71

Saturday
Dec 11th

10-11:50
CH 71

Today in CS161

Prepare for the Final

ethics
Style
Algorithm

Reviewing all Topics this term

- Variables
- If Statements
- Loops (do while, while, for)
- Functions (pass by value, pass by reference)
- Arrays (specifically arrays of characters)

1 hr 50 min
closed book, closed notes

CS161 Final Exam
Introduction to Computer Science 1

Name: _____

1. Algorithms, Style, Ethics

a. Briefly explain why it is important to write an algorithm before you create your program

b. Give an example of a situation that would benefit from an algorithm

c. Show an example of some C++ code that exhibits good style –

Put your code here!

Focus on the areas of

good style

examples

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

```
int main()
```

```
{
```

```
}
```

d. I sent an email the other day to a Professor. I thought it was confidential. They forwarded it on to the entire faculty. “They e-mailed me a copy, so I can post it.” Is this ethical? Briefly discuss.

2. C++ Programming – Fundamentals

a. Show two **VALID** variable names

b. Show two **INVALID** variable names

\$hi

c. Create a variable to hold a user's response of Y or N

d. Prompt the user to enter in a response of Y or N:

e. Show how to read the response in from the user:

f. Check to see if the response is either a Y or an N:

g. Check to see if the response is either a Y or an N or a lower case y or n

h. What kind of variable would we need if the user was allowed to enter YES or NO:

i. Show how to read the response of YES or NO in from the user:

j. Show how to find out if the user enter in YES or NO (all caps)... or something else incorrectly:

A handwritten word "strump" is written inside a hand-drawn cloud-like shape. The word is written in a cursive, lowercase font.

3. C++ Programming – Comprehensive

a. What type of loop would you use if you wanted to capitalize every character in an array.

Explain why you selected this loop

b. What type of loop would you use to play a game until the user either wins or wants to be done.

Explain why you selected this loop.

c. What type of loop would you use to play a game until the user either wins or wants to be done.

Explain why you selected this loop.

for

d. Write prototype statements a function that returns nothing and takes a single character (by value) and a floating point value (by reference) as arguments:

```
void some_function (char a, float &b)
```

e. Assume you have an array of characters and assume that it has some valid information in it (maybe a sentence) followed by a '\0'. Your job is to count the number of lower case 'a' characters in the array:

f. What If I wanted to copy the word "holiday" into an array of characters, how large should I make the array?

g. Why would I want to use the 3 argument version of cin.get?

cin.get(parray, 50, '@').

cin >>

One word