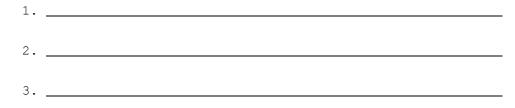# CS161 Midterm Exam
Introduction to Computer Science 1

Name:

US MAIL ADDRESS (online students):

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1. ALGORITHMS

a. Explain why an algorithm is important?
   (2 sentences maximum)

b. When creating an algorithm, list three important considerations
   or steps to think about:

   1. _____

   2. _____

   3. _____

c. Write an algorithm to phone a friend:
   DON'T SKIP ANY STEPS

2. STYLE

a. List three important aspects of program style:

1. _____

2. _____

3. _____

   b. Look at the following code and rewrite it using the above "rules" you have come up with:

Put your version here:

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


int main(){float i,m;
cin>>i;
m=25.4*i; cout <<m;
return 0;   }
```

   3. ETHICS: Computer Ethics applies to many areas of working with computers

    a. Give an example of an error message that would have ethical implications:

b. Does it matter if we use an int versus a float when doing calculations regarding money? What are the ethical implications *(4 sentences maximum)*

c. List one other ethical issue not yet discussed on this page that relates to using computers and explain why this issue is important *(4 sentences maximum)*

4. C++ Programming… *Fill in the blanks*

a. Show an example of a "comment" in C++:

   _____

b. Show an example of a variable for holding your hourly wage:

c. Show an example of reading in from the user (input):

_____

d. Show an example of writing something out to the screen (output):

_____

e. Write an if statement to determine if your hourly wage is between 5 and 10 dollars (not including 5 and 10):

    if (_____)

f. Write an if statement to determine if a character variable "response" has a value of an upper or lower case n:

    if (_____)

g. Write a while loop that allows the user to enter a number and add it to a running total, continuing to do this for five times:

h. Write do while that represents a "confirmation loop". Read in an whole number, and loop until the user is happy with the number that was entered: