The University of Alabama in Huntsville
Electrical & Computer Engineering
CPE 112 01
Fall 2001
Test I
September 13, 2001

Name: _____

1) (12 points) Put a check mark beside the variables that are syntactically correct.

_____ `_out_of_time`	_____ `try-it`	_____ `timeOfDay`
_____ `2beornot2be`	_____ `payRate`	_____ `const`

2) (2 points) The default mode of control of execution is _____.

3) (6 points) The three methods by which the control of execution can be altered are

_____

_____

_____

4) (12 points) Evaluate the following expressions given the following variable declarations:

```
double x  = 23.5, y = 7.2;
int m = 3, n = 4;
```

`int(x) / n` _____

`x / n` _____

`float(n * m)` _____

`float(n)/ m + y` _____

`double(n / m)` _____

`int (x) % m` _____

5) (3 points) What does a compiler do?

6) (2 points) Every C++ program consists of at least how many functions? _____

7) (18 points) Evaluate the following expressions given the following variable declarations:

```
int z = 5, a = 2, b = -3, w = 4, y = -1;
```

```
z / a * b - 2 * w * -y          _________
-y * w / z - a                  _________
-(z / b) + -b                   _________
-z - b                          _________
(a * ( b * w / z * a ) - z)     _________
(a * z + a + a + a * w)         _________
```

8) (6 points) Write the following expressions in C++ if all the variables (a, c, d, e, u, v, w) are all of type double.

a) $\dfrac{\left(a\sqrt{c}\right)+d}{e(u-v)}$

b) $|a|+c\left(\sqrt{uvw}\right)$

9) (3 points) Write a C++ declaration that gives the name Num to the value 50;

10) (4 points) Declare a char variable named initial and a string variable named first_name.

11) (2 points) Assign the value ÒAlbertÓ to the string variable first_name.

12) (3 points) What does the following code segment print out? Clearly indicate any spaces and blank lines.

```
string str;
str = ÒAbrahamÓ;
cout << ÒThe answer is Ó << endl << endl << str  + Ô Õ
         ÒLincolnÓ << endl << endl << endl << Ò so, thereÓ;
```

13) (2 points) A literal string can be assigned to a variable of type `string`. (T or F) _____

14) (2 points) A variable of type `char` can be assigned to a variable of type `string`. (T or F) _____

15) (3 points) Write a C++ constant declaration that gives the name `E` to the value 2.7128.

16) (4 points) Declare an `int` variable named `total` and a `float` variable named `average`.

17) (4 points) Add type casts to the following statements to make the type conversions clear and explicit. Your answers should produce the same results as the original statements.

a. `someInt = 5 + someFloat * 3;`
b. `someFloat = 2.5 * someInt / someFloat;`

18) (2 points) Which part of the following function call is its argument list?

```
Square(someInt + 1);
```

19) (2 points) The following program code is incorrect. Rewrite it, using correct syntax.

```
string addres;       / EmployeeÕs street address
                     / including apartment
```

20) (8 points) Assume the `float` variable `pay` contains the value 120485.43295. Using the `fixed`, `setw`, and `setprecision` manipulators, what output statement would you use to print `pay` in dollars and cents with 3 leading blanks?