What, if anything, is wrong? Explain your answer, and state whether you have found a syntax error or a logic error.

avg == sum / n;

x = (m + n)2;

cin << number;

cout << "Hello, /* displays a line */ World.\n";

while (n <= 100) total += n*n;

cout << "Enter a value for A: " << a << '\n';

m + n = 2;

let a = sqrt (b);

cout >> "Hello\n";

while (x != 0) sum = sum + x;

result = (n1 + n2 + n3 / (N - 1);

for (i = 0; i < 3; i++)
{
cout << i;
i++;
}

What will be output?
```
sum = 0;
for (int i=1; i <=3; i++) {
     cout << i;
     sum += i;
     }
cout << sum;


     for (int i = 1; i <= 3; i++){
          for (int j = 1; j <= 4; j++)
               cout << "    *    ";
     cout << endl;
     }
```

Find the error:

```cpp
#include <iostream>
using namespace std;
const int MAX=5;
int main(){
    double x[MAX];
    x[0]=1;
    for (int i=0; i<MAX; i++)
        x[i] = i * x[i-1];
    for (int i=0; i<MAX; i++)
        cout << "X[" << i << "]= "<< x[i] << endl;
    return 0;
}
```

What is output?

```cpp
include <iostream>
using namespace std;
const int MAX=5;
int main(){
    double x[MAX];
    for (int i=0; i<MAX; i++)
        x[i] = i * i;
    for (int i=0; i<MAX; i++)
        cout << "X[" << i << "]"= << x[i] << endl;
    return 0;
}
```

Write a program that will read in a stream of integer values. An unusual value (i.e., a sentinel value) at the end signifies the end of data. When the data has ended, the program will display the sum of the positive integers and the sum of the negative integers.

Write a program that will compute an average score for each student in a class, and use it to produce an overall average score for the entire class. The program will read in two exam scores for each student. An unusual value (i.e., a sentinel value) at the end signifies the end of data.

Write a program that will read in a stream of integer values. An unusual value (i.e., a sentinel value) at the end signifies the end of data. When the data has ended, the program will display the largest and the smallest of all the values entered.

Write a function to compute the average of values stored in an array. The prototype is:
float avgarray (float x[], int n);

The results of a true-false exam given to a CIS class are available for input to a test scoring program. The information available for each student consists of a student ID number and the student's answers to 10 true-false questions. For example,

0080 FTTFTFTTFT

0084 FTFTFFTTTF

…

Write a program that: reads in the 10 correct answers (the key); for each student, reads the student's data and computes and stores the number of correct answers for each student in an array; stores the student's ID number in another array; determines the best score in the class; displays the best score and the student who earned it. Include at least one function - scantron - to score each student's exam and return the number of correct answers.

What will be output?

A.
```cpp
void fun (int&, int&, int&);

int main(){
int a, b, c;
…
a = 27; b = 10; c = 3;
fun (a, b, c);
cout << a;
…
return 0;
}

fun (int &x, int &y, int &z){
x = x + y + z;
}
```


B.
```cpp
void fun (int, int, int);

int main(){
int a, b, c;
…
a = 27; b = 10; c = 3;
fun (a, b, c);
cout << a;
…
return 0;
}

fun (int x, int y, int z){
x = x + y + z;
}
```

The results of a true-false exam given to a CIS class need to be scored. The data available for each student consists of a student ID number and the student's answers to 10 true-false questions. For example,

0080 FTTFTFTTFT

0084 FTFTFFTTTF

…

Your consulting firm is working on a test-scoring program. The program, when finished, will: read in the 10 correct answers (the key); for each student, read the student's data and compute and store the number of correct answers for each student in an array; store the student's ID number in another array; determine the best score in the class; display the best score along with the student who earned it.

Write only the ***function prototypes*** for this problem. Do not write the function definitions. This is an exercise in designing a program not writing all the code for it. Include at least 4 function prototypes: one function, named scantron, will score a student's exam and return the number of correct answers; include at least three more of your choosing. You may include additional function prototypes if you wish and if you think the program will be well served by them.

+++++++++++++++++
Implement a Student class. Each object of this class will represent a student in a particular course. Data members should include the student's ID number, first name, last name, and four exam scores. Include a constructor, a complete set of access functions, a displayStudentInfo function, an inputStudentInfo function, and a computeAvgScore function. The following is an example of how the Student class will be used in a program.

```
int main(){
    Student oopsStudent;
    int n;
    float classTotal;
    cout << "How many students?";
    cin>>n;
    for (int i=0; i<n; i++){
        oopsStudent.inputStudentInfo();
        oopsStudent.computeAvgScore();
        classTotal += oopsStudent.getAvg();
        oopsStudent.displayStudentInfo();
    }
    cout<< "The class average is " << classTotal / n;
    return 0;
}
```

+++++++++++++

Write a program that generates an Employee Payroll Report for an organizations's hourly personnel. The input for the program consists of a collection of data containing the last name, hourly pay rate, and the number of hours worked during the current pay period, for a set of employees. For each employee, your program should (1) input the employee's data items, (2) compute the employee's salary for the current pay period, (3) output one detail line about this employee. Use a function to compute the salary of an employee.   Do not include comments or user prompts. Do not format your output.