CS 10061 Introduction to Computer Science
Section 1
Spring 2010
Call Number 11591

Midterm 2
April 14, 2010

YOUR NAME: _____

1. (10 points) Write a multiway `if-else` statement that outputs "`Its hot!`" if the value of the variable `temperature` is greater than 80, it outputs "`Its nice!`" if the value of the variable `temperature` is between 65 and 80, and otherwise outputs "`Its cold!`"

```
if ( temperature > 80 ) cout << "Its hot!\n";
else if (temperature > 65 ) cout << "Its nice!\n";
else cout << "Its cold!\n";
```

2. (10 points) What is output by this code?
```
do
  cout << 1;
while (y != y);
cout << endl;
```

```
Only the number 1 followed by an endl.
```

3. (15 points) Write a function declaration (prototype) and a function definition for a function that takes three arguments, of type `double` and returns their average.

```
double average(double a,double b,double c);


double average(double a,double b,double c){
    return ((a+b+c)/3.0);
}
```

4. (15 points) Writer a driver program to test the function in question 3.

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

int main()
{
   double a,b,c;
   while(1){
       cout << "Give me three numbers to test.";
       cin >> a >> b >> c;
       cout << "The output is " << average(a,b,c)
             << endl;
   }
   return 0;
}
```

5. (10 points) Write a code segment that finds the sum of the first 2000 odd numbers.

```
int sum =0;
for (int i=1;i <= 2000;i++)
      sum += 2*i-1;
```

6. (10 points) Rewrite the following `for` loop as a `while` loop:
```
for(Counter = 1;Counter <= maximum;Counter++){
 cout << Counter << "\t";
}
```

```
Counter = 1;
while(Counter <= maximum){
   cout << Counter << "\t";
   Counter++;
}
```

7. (10 points) Assume variables `max,n1` and `n2` have been declared type `int`. Write code to set max to the greater of `n1` and `n2.`

```
max = (n1 >n2)? n1:n2;
```

8. (15 points) Write a `void` function using two type `int` call-by-reference parameters that swaps the values in the arguments.

```
Void swap(int &a,int &b){
     int temp;
     temp = a;
     a = b;
     b = temp;
}
```

9. (5 points) Briefly explain what a stub is.

A stub is a short function which cannot fail and is used to test another function which calls a function with the name of the stub.