Name: _____ Section Number: _____

TA: _____ ACUNIX Login: _____

Question 1:	**_____**	**(6)**
Question 2:	**_____**	**(6)**
Question 3:	**_____**	**(6)**
Question 4:	**_____**	**(6)**
Question 5:	**_____**	**(6)**
Question 6:	**_____**	**(6)**
Question 7:	**_____**	**(6)**
Question 8:	**_____**	**(6)**
Question 9:	**_____**	**(10)**
Question 10:	**_____**	**(40)**
Total:	**_____**	**(100)**

CSI 201 Introduction to Computer Science **Examination Two (25%)**
Ian MacDonald **April 8th, 2003**

Note: For all problems where you must find something wrong, this does <u>not</u> mean "will this compile?". Rather, the program may compile, yet you may find something that will cause undesirable output or a runtime error.

1. **What is wrong with the following program? If nothing is wrong, write "Nothing Wrong". (6 points)**

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

int main()
{
  char ch = 'B';

   switch (ch)
   {
   case A:
        cout << "Great Job!" << endl;
        break;
   case B:
        cout << "Good Work" << endl;
        break;
   default:
        cout << "Need to work harder" << endl;
        break;
   }
  return 0;
}
```

2. **What is wrong with the following program? If nothing is wrong, write "Nothing Wrong" (6 points)**

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

int main()
{
   ifstream myfile;
   int x;

   ifstream.open("numbers.txt");
   while (!ifstream.eof())
   {
        ifstream >> x;
        cout << x << endl;
   }

   ifstream.close();
   return 0;
}
```

3. What is wrong with the following program? If nothing is wrong, write "Nothing Wrong" (6 points)

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

int main()
{
   for (int num = 1; num++; num <= 5)
     cout << num;

   return 0;
}
```

4. What will the following program print when executed? (6 points)

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

int main()
{
   int x = 3;
   int y = 5;

   if (y == 5)
   {
        int x = 8;
        y = 6;
   }

   cout << x;

  return 0;
}
```

5. What will the following program print when executed? (6 points)

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

int main()
{

   for (int i = 1; i < 3; i++)
   {
        for (int j = 3; j >= 1; j--)
        {
             cout << i + j << endl;
        }
   }

   return 0;
}
```

For questions 6 and 7, refer to the class definition on the next page…

6. If the following main() function was inserted into the program above, what would be the output (6 points):

```
int main()
{
     Date d1, d2(1, 2, 2003);
     d2.showDate();
     d1.showDate();
     return 0;
}
```

7. If the following main() function was inserted into the program above, what would be the output (6 points):

```
int main()
{
     Date myDate(8, 30, 1999), otherDate;
     myDate.setDate(5, 12, 2003);
     myDate.showDate();
     otherDate.showDate();
     return 0;
}
```

//Below is the class used for questions 6 and 7 on the previous page:

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

class Date
{
private:
   int month;
   int day;
   int year;
public:
   Date(int m, int d, int y);
   Date();
   void showDate();
   void setDate(int m, int d, int y);
};

Date::Date()
{
   month = 6;
   day = 1;
   year = 2000;
}

Date::Date(int m, int d, int y)
{
   month = m;
   day = d;
   year = y;
}

void Date::showDate()
{
   cout << month << "-" << day << "-" << year << endl;
   return;
}

void Date::setDate(int m, int d, int y)
{
   month = m;
   day = d;
   year = y;
   return;
}
```

8. What will the following program print when executed? (6 points)

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

int main()
{
   int k = 3;

   if ( (k != 3) && (k < 5) || (k == 19) )
        cout << “Good Morning!”;
   else
        cout << “Good Night!”;

   return 0;
}
```

9. Rewrite the following if-else chain using a switch statement. (10 points).

```
if ((x == ‘A’) || (x == ‘B’) || (x == ‘C’))
  cout << “2”;
else if ((x == ‘D’) || (x == ‘E’) || (x == ‘F’))
  cout << “3”;
else if ((x == ‘G’) || (x == ‘H’) || (x == ‘I’))
  cout << “4”;
else
  cout << “56789”;
```

10. (40 points) Write a program to do the following (if warranted, partial credit will be given). Please write your solution to this problem on the next page (so you have enough room).

1. **(10 points) Write a struct called "CreditCard". Each CreditCard will contain the following information: a credit_card_number (of type int), balance (of type double), and interest_rate (of type double).**

2. **(15 points) Write a main function that will do the following:**
   - **declare 2 credit cards named "Visa" and "MasterCard"**
   - **Initialize "Visa" on declaration with the credit card number 3563, balance of 568.00 and an interest rate of 13.99**
   - **Prompt the user for the information for all fields of "MasterCard"**

3. **(15 points) Lastly, prompt the user for a file name. Write the values stored in all fields of "Visa" and "Mastercard" to this file (each value on a seprate line). Do not assume that the file will open successfully (check to make sure there was not an error when opening the file).**

Place your answer to Question #10 Here:

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