CSCI 1010 Algorithmic Problem Solving

Assignment 6

1. What are the values of m and n after executing the following code?

```
int n = 123456789 ;
int m = 0 ;
while(n != 0)
{
    m = (10 * m) + (n % 10);
    n = n / 10 ;
}
```

Please do not write a program to find the result, and show the process of how you get the result.

2. Write a program to let the user enter 10 numbers, and count how many numbers are greater than 60.

```
Enter a number: 15
Enter a number: 39
Enter a number: 90
Enter a number: 68
Enter a number: 86
Enter a number: 49
Enter a number: 77
Enter a number: 50
Enter a number: 60
Enter a number: 34
There are 4 numbers greater than 60
```

3. The Riddler is planning his next cape somewhere on Pennsylvania Avenue. In his usual sporting fashion, he has left the address in the form of a puzzle. The address of Pennsylvania is a four-digit number where:

   a. The digit in the thousands place is three times the digit in the tens place
   b. The number is odd
   c. The sum of the digits is 27

Write a program that use a loop to find the address (all the addresses that match the requirement) where the Riddler plans to strike.

```
9639
9837
```

4. Write a program to help the instructor find the highest grade, the lowest grade and calculate the mean grade of ten students. Your program should let the instructor enter 10 grade numbers and then display the result.

```
Enter grade 1 :98
Enter grade 2 :79
Enter grade 3 :59
Enter grade 4 :67
Enter grade 5 :88
Enter grade 6 :69
Enter grade 7 :94
Enter grade 8 :85
Enter grade 9 :75
Enter grade 10 :81
The highest grade is 98
The lowest grade is 59
The mean grade is 79
```

Please submit:

a. Source code for each question.
b. A document with algorithm design and screenshot for each question.