BIL 104E QUIZ 3 (Section A)

1) Consider the following function prototypes (20)
int test(int a, int b, int c);

a. How many parameters does the function test have? What is the type of the function test? (3, int)
b. Write the test function which will return the summation of three integers.

```
int test (int a, int b, int c){

return (a+b+c);

 }
```

2) Consider the following functions (20)

```
int secret(int x)
{
    int i, j;

    i = 2 * x;

    if (i > 10)
        j = x / 2;

     else
         j = x / 3;

     return j - 1;
 }
```

```
int another(int a, int b)
{
    int i, j;

    j = 0;

    for (i = a; i <= b; i++)
        j = j + i;

    return j;
}
```

What is the output of each of the following program segments? Assume
that x, y are int variables.
a) x = 10;
cout << secret(x) << endl; (4)
b) x = 5; y = 8;
cout << another(x, y) << endl; (26)

3) What is the output of the following C++ program? (20)

```
#include <iostream>
#include <cmath>

using namespace std;

int main()
{
    int counter;

    for (counter = 1; counter <= 100; counter++)
        if (pow(floor(sqrt(counter + 0.0)), 2) == counter)
            cout << counter << " ";

    cout << endl;

    return 0;
}
```

1 4 9 16 25 36 49 64 81 100

4) Write the definition of the value-returning function payCheck that calculates and returns the amount to be paid to an employee based on the hours worked and rate per hour. The hours worked and rate per hour are stored in the variables hours and rate, respectively, of the function main. The formula for calculating the amount to be paid is as follows: For the first 40 hours, the rate is the given rate; for hours over 40, the rate is 1.5 times the given rate. (40)

cout << payCheck(20,2)<<endl; // prints 40

cout << factorial (40,3)<<endl; // prints 120

cout << factorial (45,4)<<endl; // prints 190

```
double paycheck (int hours, int rate) {
double sum
if(hours<=40)
sum=hours*rate;
else
sum=40*rate+(hours-40)*rate*2.5;
return sum;
}
```