CS111 Spring 2019 Lab Quiz 2

NAME _____

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PART 1 – Programming Questions 1 – 3 are 5 points each. Questions a – d are 2 points each.

1) Complete the function **Average** that takes an array of integers and returns their average as a decimal.
e.g. {1,2,3} ==> 2.0
{1,2,3,4} ==> 2.5

```
double Average(const int*Numbers, const int Size)
{
        double sum = 0;
        for (int i = 0; i < Size; i++)
                sum += Numbers[i];
        return(sum / Size);
}
```

2) Complete the function **SumProduct** takes a 2d array of numbers and returns the total sales.
The data in the array is composed as follows:

a) units represents number of units that were sold
b) amount represents the sale amount for each unit

So the output of the input below would be 14.00.
int iUnits[] = { 1,2,3 };
double amount[] = { 2.5,5.0,0.5 };
SumProduct(iUnits, amount, 3) ==> 14

```
double SumProduct(int *iUnits, double *amount, int iNumOfSales)
{
	double sum = 0;
	for (int i = 0; i < iNumOfSales; i++)
		sum += (iUnits[i] * amount[i]);
	return(sum);
}
```

3) Complete the function **RandomOddNumber** that has no parameters returns an odd random integer
E.g. RandomOddInteger ==> 345 or 399 **NOT 900**

```
int RandomOddInteger()
{
	srand(time(0));
	// solution 1 Mine
	return(rand() / 2 * 2) + 1;

	// solution 2 Hannah
	return(rand()* 2) + 1;

	// solution 3 Ezra
	int r = rand();
	if (r % 2 == 0)
		r++;
	return(r);
}
```

PART 2 – Logic (Mind Games?) Questions a – d are 2 points each.

```
double f(double d)
{
        d++;
        return(d);
}
int f(int &d)
{
        d--;
        return(d);
}
char f(char &c)
{
        c = 'C';
        return(c);
}

int main()
{
        int i;
        char str[100] = "ABCD";
        const char *ptr = str;
        while (ptr[i])
                i++;
        cout << "The String Length is: " << i << endl;
```

a) What is the output? _indeterminate (i not initialized)

```
        int a = 0;
        char b = 0;
        double c = 0;
        char cc = f(a) + f(b) + f(c);
        cout << cc << endl;
```

b) What is the output?

C

```
cc = (a) + (b) + (c);
cout << cc << endl;
```

c) What is the output?

B

```
double d = 10023;
for (int i = 0; i < 2; i++)
        d /= 10;
cout << d << endl;
```

d) What is the output?

100.23

```
return 0;
}
```