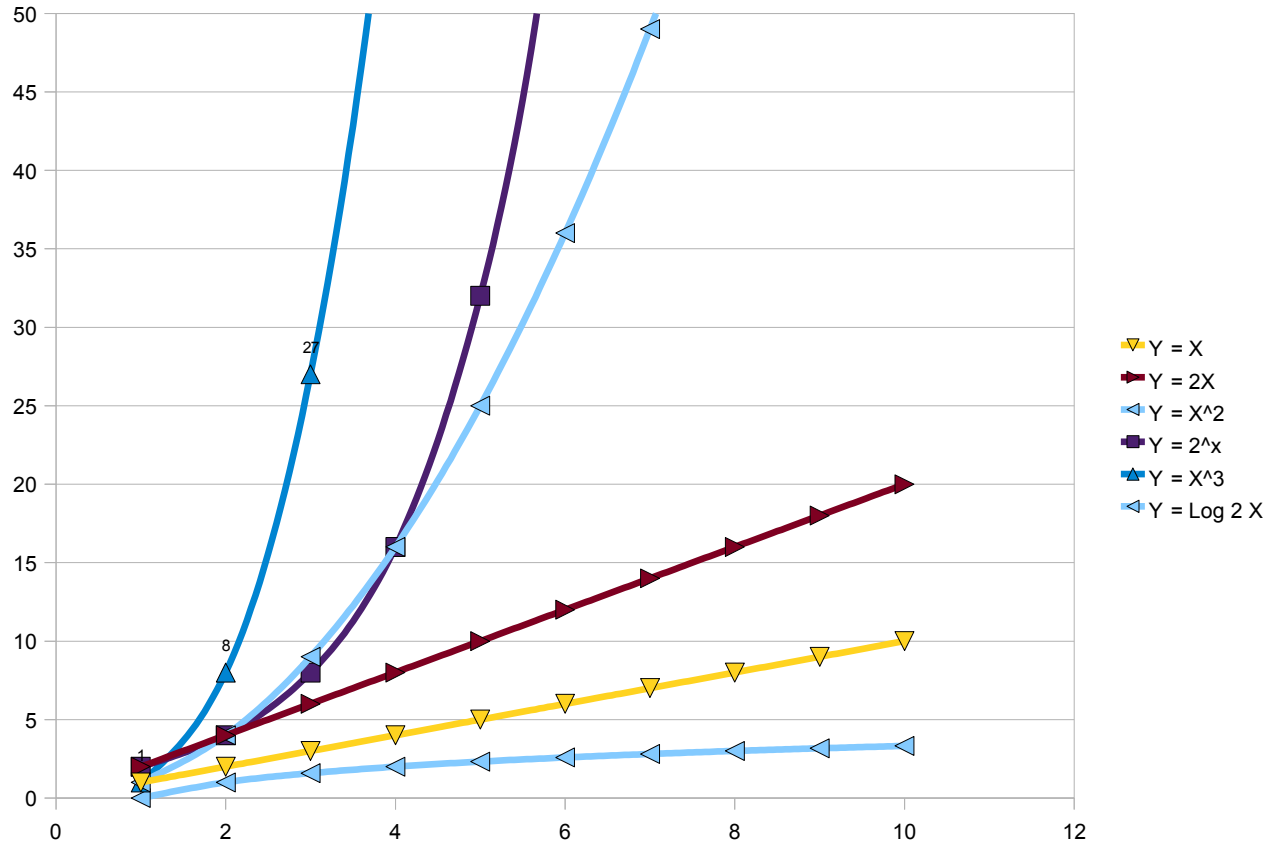
```
/*****************************************************************************
**                                                                          **
**      Name:           Clyde Pabro                                         **
**      Class:          CISP 430 – Fall 2012 Tue                            **
**      Assignment:     Homework 1                                          **
**                                                                          **
*****************************************************************************/
```

CISP 430 **Assignment 1** **Fall 2012**

Math Review/Algorithm Analysis

Graph:



Rank the Graphs:

1^{st}: $Y = X^3$

2^{nd}: $Y = 2^X$

3^{rd}: $Y = X^2$

4^{th}: $Y = 2X$

5^{th}: $Y = X$

6^{th}: $Y = \text{Log}_2 X$

foo1:

n	return value	n	return value
0	0	41	41
1	1	42	42
2	2	43	43
3	3	44	44
4	4	45	45
5	5	46	46
6	6	47	47
7	7	48	48
8	8	49	49
9	9	50	50
10	10	51	51
11	11	52	52
12	12	53	53
13	13	54	54
14	14	55	55
15	15	56	56
16	16	57	57
17	17	58	58
18	18	59	59
19	19	60	60
20	20	61	61
21	21	62	62
22	22	63	63
23	23	64	64
24	24		
25	25		
26	26		
27	27		
28	28		
29	29		
30	30		
31	31		
32	32		
33	33		
34	34		
35	35		
36	36		
37	37		
38	38		
39	39		
40	40		

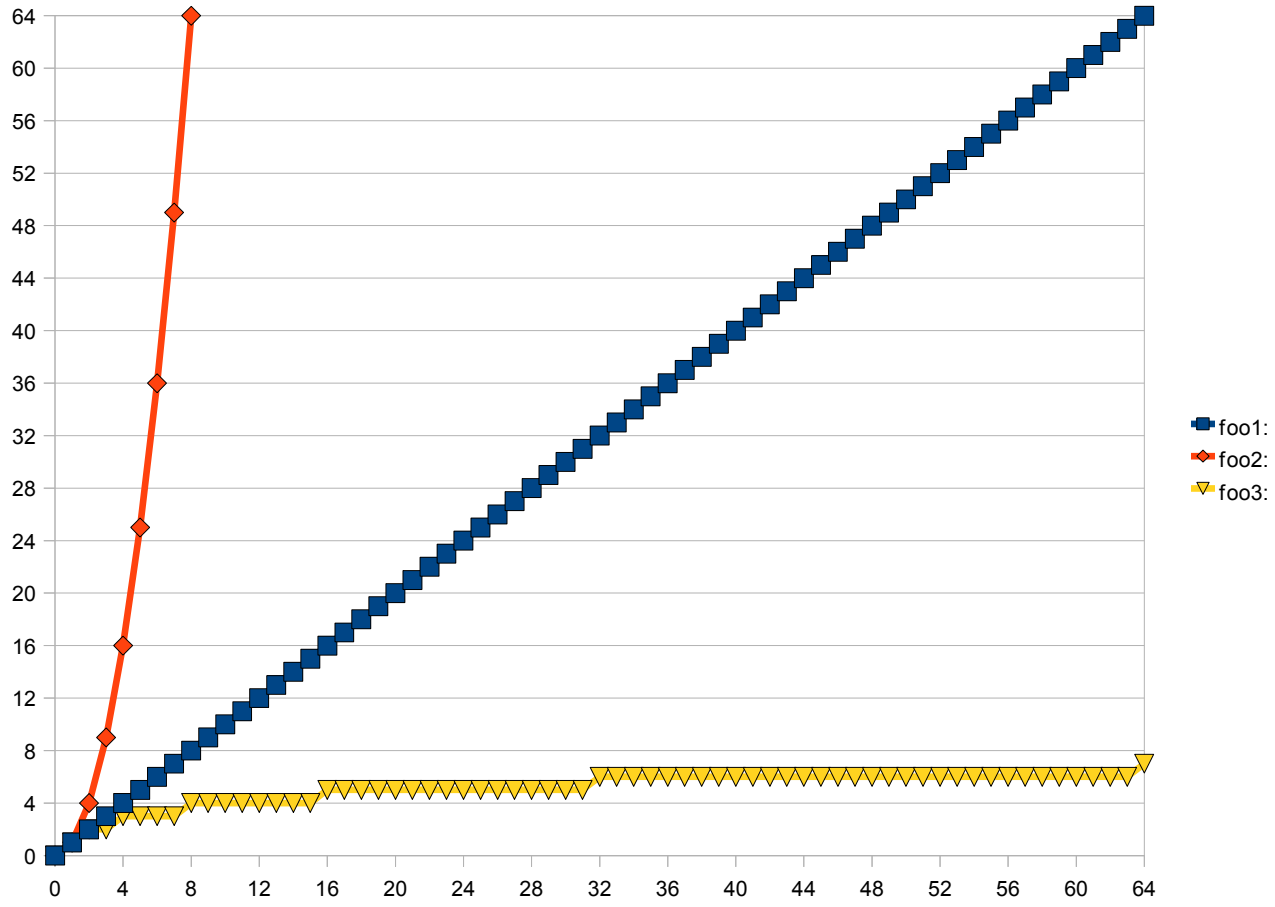
foo2:

n	return value	n	return value
0	0	41	1681
1	1	42	1764
2	4	43	1849
3	9	44	1936
4	16	45	2025
5	25	46	2116
6	36	47	2209
7	49	48	2304
8	64	49	2401
9	81	50	2500
10	100	51	2601
11	121	52	2704
12	144	53	2809
13	169	54	2916
14	196	55	3025
15	225	56	3136
16	256	57	3249
17	289	58	3364
18	324	59	3481
19	361	60	3600
20	400	61	3721
21	441	62	3844
22	484	63	3969
23	529	64	4096
24	576		
25	625		
26	676		
27	729		
28	784		
29	841		
30	900		
31	961		
32	1024		
33	1089		
34	1156		
35	1225		
36	1296		
37	1369		
38	1444		
39	1521		
40	1600		

foo3:

n	return value	n	return value
0	0	41	6
1	1	42	6
2	2	43	6
3	2	44	6
4	3	45	6
5	3	46	6
6	3	47	6
7	3	48	6
8	4	49	6
9	4	50	6
10	4	51	6
11	4	52	6
12	4	53	6
13	4	54	6
14	4	55	6
15	4	56	6
16	5	57	6
17	5	58	6
18	5	59	6
19	5	60	6
20	5	61	6
21	5	62	6
22	5	63	6
23	5	64	7
24	5		
25	5		
26	5		
27	5		
28	5		
29	5		
30	5		
31	5		
32	6		
33	6		
34	6		
35	6		
36	6		
37	6		
38	6		
39	6		
40	6		

GRAPH:



Rank the Graphs:

1st: foo2

2nd: foo1

3rd: foo3

SOURCE CODE:

```
/***
*       File: MainFoo.cpp
*       Author: Clyde Pabro / CISP 430
*       Class: CISP 430 Fall FLC 2012 Tues
*       Date: 2012 September 5
*       HW: Assignment #1
*
***/
#include <iostream>
using namespace std;

int foo1( int n );
int foo2( int n );
int foo3( int n );

int main()
{
        cout << "foo1: " << endl;
        for( int i = 0; i <= 64; i++ )
        {
                cout << i << " " << foo1(i) << endl;
        } // end for

        cout << "foo2: " << endl;
        for( int i = 0; i <= 64; i++ )
        {
                cout << i << " " << foo2(i) << endl;
        } // end for

        cout << "foo3: " << endl;
        for( int i = 0; i <= 64; i++ )
        {
                cout << i << " " << foo3(i) << endl;
        } // end for

        return 0;
} // end main program

int foo1( int n )
{
        int counter = 0;

        for( int i = 0; i < n; i++ )
        {
                counter++;
        } // end for
```

```
		return counter;
} // end foo1 function

int foo2( int n )
{
		int counter = 0;

		for( int i = 0; i < n; i++ )
		{
			for( int j = 0; j < n; j++ )
			{
				counter++;
			} // end for
		} // end for

		return counter;
} // end foo2 function

int foo3( int n )
{
		int counter = 0;

		for( int i = n; i > 0; i = i/2 )
		{
				counter++;
		} // end for

		return counter;
} // end foo3 function
```