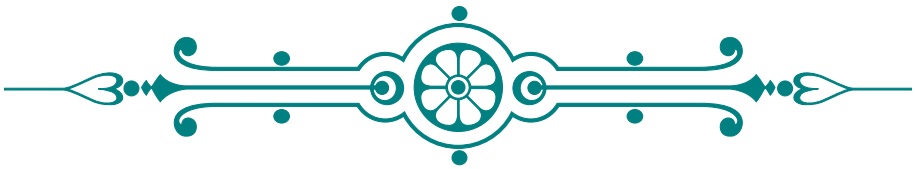

정보통신 수학 및 실습
3월 4주차 Lab assignment

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날짜 : 2017년 3월 13일

Chapter 2. Lab Assignment

1. Compute the following functions using MATLAB:

a) $\log_{10} 10000 = 4$

b) $\log_e e^{20} = 20$

c) $\log_5 125 = 3$

2. Compute the following functions when x = 3 and y = 2: (Write your MATLAB code, too)

a) $\frac{1}{2}\log_{10} x^2 - \frac{1}{2}\log_{10} y^2$

```
>> x=3,y=2
x =  3
y =  2
>> z= 1/2*log10(x**2)-1/2*log10(y**2)
z =  0.17609
```

b) $\log_e 1 - \frac{1}{2}\log_e 4x^2$

```
>> z = log(1)-1/2*log(4*x**2)
z = -1.7918
```

c) $\frac{1}{2}\log_{10} x^2y^4 - \frac{1}{2}\log_{10} x^4y^2$

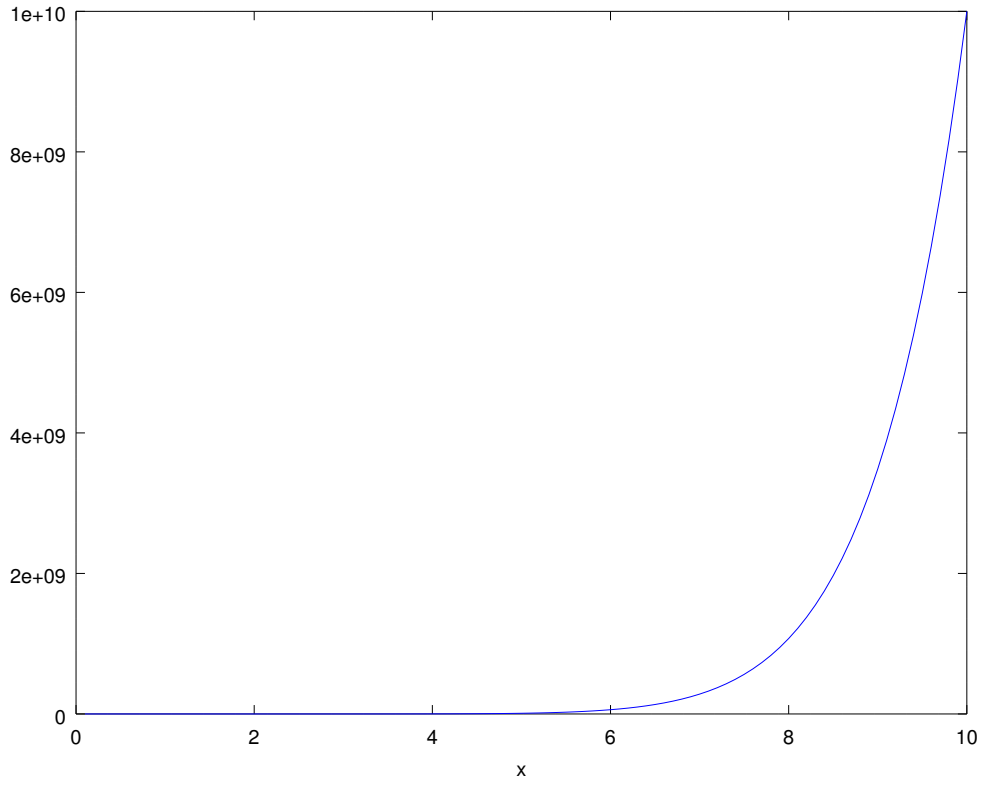
```
>> z = 1/2*log10(x**2* y**4) -1/2*log10(x**4* y**2)
z = -0.17609
```

d) $\frac{1}{8}\log_e(x+1)^{16}$

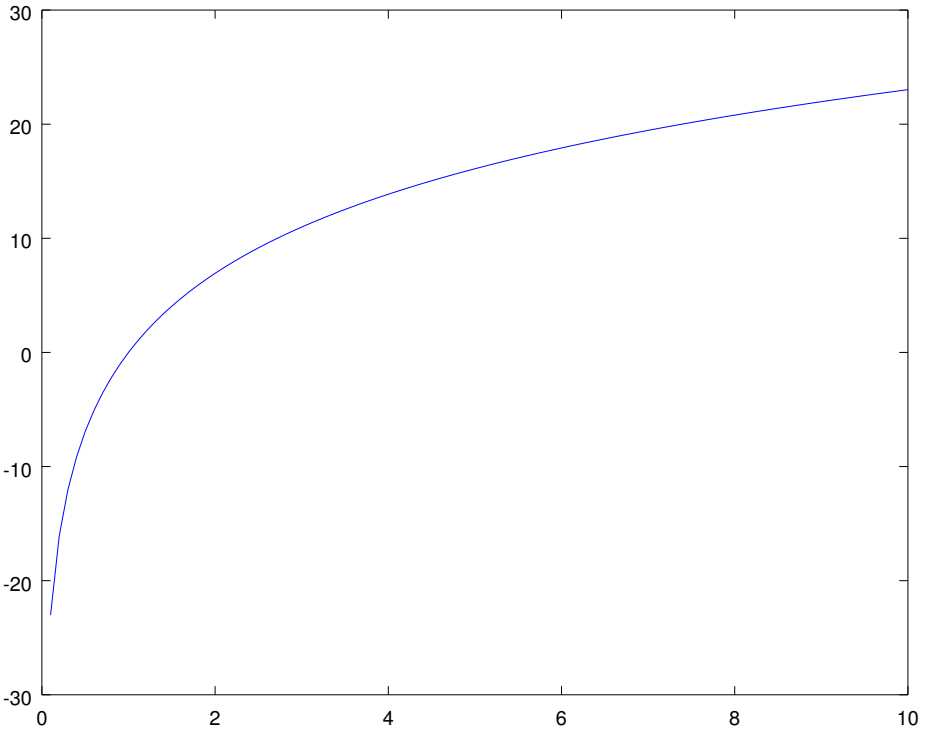
```
>> z = 1/8*log((x+1)**16)
z =  2.7726
```

3. Plot $y = x^{10}, 0.1 \leqq x \leqq 10$ with the following scales using MATLAB:

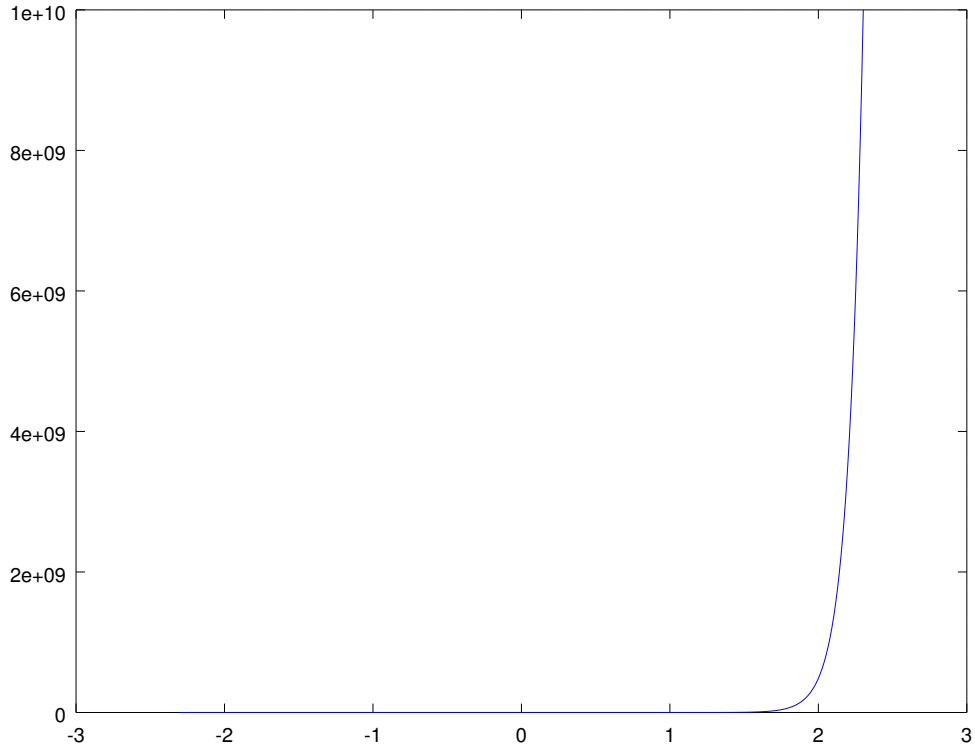
a) x: linear, y:linear



b) x:linear, y:log



c) x:log, y:linear



d) x:log, y:log