Matlab 코드

```
%% Quiz 3-2 Bisection method
a=0.5;
b=exp(1);
n=100; % maximum number of iteration
t=1e-10; % tolerance
f=@(x) log(x); % function
for i=1:n
    abs(a-b)
    x=(a+b)/2;
    if f(x)<0
        a=x;
    else
        b=x;
    end
    if abs(a-b)<t
        break
    end
end
i

%% Quiz 3-2 another code
a=0.5;
b=exp(1);
n=100; % maximum number of iteration
t=1e-10; % tolerance
x=abs(a-b);
for i=1:n
    x=x/2;
    if x<t
        break
    end
end
i
```

```
%% Quiz 3-3 fixed point theory
x=1/3; % P_0
n=100; % maximum number of iteration
t=1e-10; % tolerance
f=@(x) 2^(-x)-x; % function
g=@(x) 2^(-x); % We want to find f(x)=2^(-x)-x=0. So, find x satisfies x=2^(-x) using fixed point theory.
for i=1:n
    x=g(x);
    if abs(f(x))<t
        break
    end
end
i
```

Python 코드

```
from math import exp
import math

##Quiz 2-2

tolerance = (0.1)**10
a=0.5
b=exp(1)
times=0
sol=0
for i in range(100):
    p=(a+b)/2
    if abs(a-b)<tolerance:
        sol=p
        break
    else:
        if math.log(p)*math.log(a)<0:
            a=a
            b=p
        if math.log(p)*math.log(b)<0:
            a=p
            b=b
    times+=1

print(times)


## Quiz 2-3

first=1/3
num=0
while(1):
    if abs(first-2**(-first))<((0.1)**10):
        break
    first=2**(-first)
    num+=1

print(num)
```