

```
% Using Octave
```

```
clear
```

```
clc
```

```
close all
```

```
x = 0.5
```

```
for i=1 : 5000
```

```
    iter(i+1) = i;
```

```
    y(i+1) = exp(-0.5*x(i)) * (4-x(i))-2;
```

```
    z(i+1) =
```

```
    (-2*exp(-0.5*x(i)))-(exp(-0.5*x(i)))+(0.5*x(i)*exp(-0.5*x(i)));
```

```
    x(i+1) = x(i) - (y(i+1)/z(i+1));
```

```
    Ea(i+1)= (((x(i+1)-x(i))/x(i+1))*100);
```

```
    if Ea(i+1) <= 1*10^-9;
```

```
        break
```

```
    endif
```

```
endfor
```

```
table = [iter' x' Ea']
```

```
display('The value of x is: '), display(x(i+1))
```