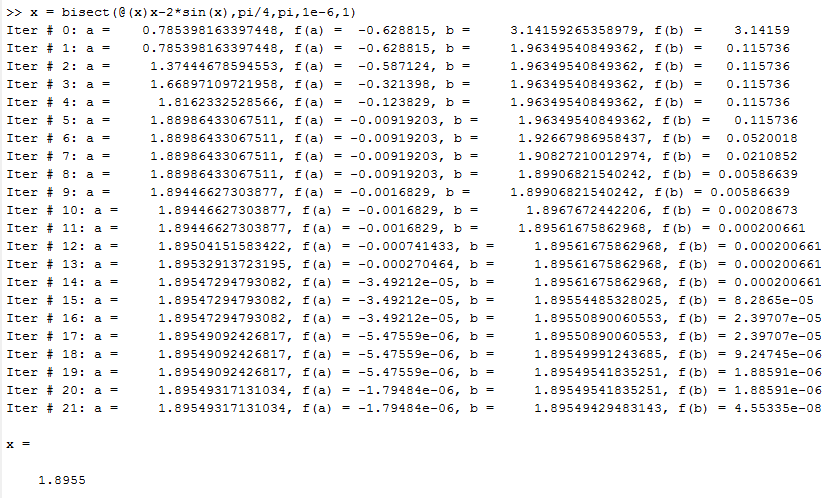
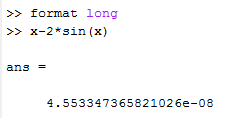
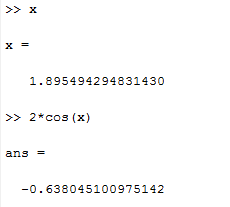
**Problem 1:**



The initial interval is . The computed solution is **1.8955**. Error is **4.5533.**

**Problem 2:**

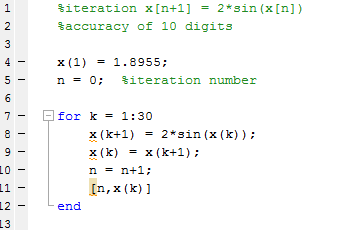
**1. xn+1 = 2sin(xn):**

;

Since < 1, it **converge** to a solution and the rate of convergence is controlled by **0.6380**.

**2. xn+1 = 2(xn - sin(xn)):**

;

Since > 1, it **diverges.**

ans =

1.000000000000000 1.895490609112251

2.000000000000000 1.895496600940147

…

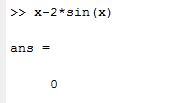
25.000000000000000 1.895494266958182

26.000000000000000 1.895494267082344

27.000000000000000 1.895494267003123

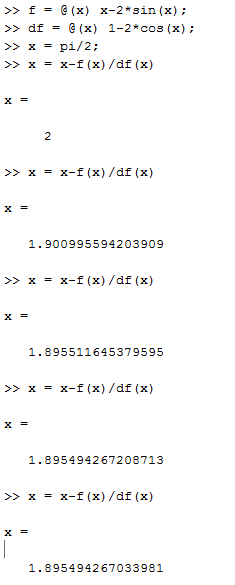
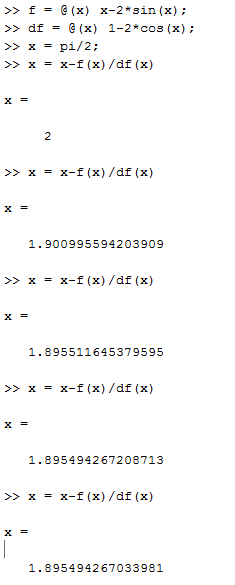
The solution is **1.8954942670**, with an accuracy of 10 digits.

**Problem 3:**

The solution is approximately **1.8955**.

The number of iterations is **5**.

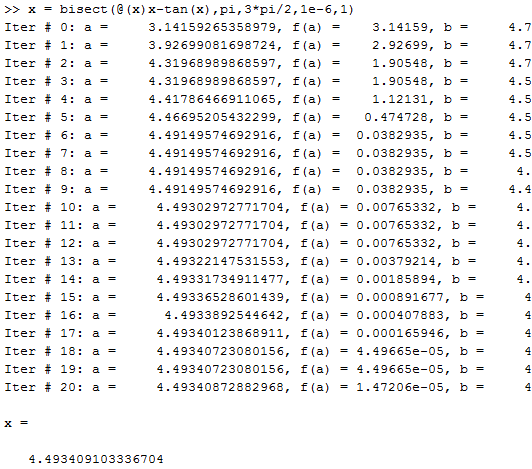
The value is **0.**



**Problem 4:**

The solution is **4.4934**. It’s computed using the **bisection method**.

The stopping criterion is when is small enough --- ε less than **.**

The value of x – tan(x) is **.**

