Text

Description automatically generated

**Graphical user interface, text, application

Description automatically generated**

2. Do exercise 8.4 on page 194 of the textbook but do not create tables and do not sketch the results by hand. Instead, save the computed values in vectors and plot the results as indicated at the end of the description of the exercise.

Graphical user interface, text, application

Description automatically generated

**Answer**

Graphical user interface, chart

Description automatically generated

3. Do a variation of exercise 8.11 on page 192 of the textbook. Specifically, implement a function m-file called "mycos\_LastName.m" that outputs four arguments: 1. the approximation of cosine. 2. the value obtained by MATLAB®'s built-in cosine function. 3. the difference between the two (which should be less than 1e-4). 4. a convergence flag (like the one used in newtfun\_LastName.m). Test it on the following input values (in radians): 0, pi/4, pi/2, 3pi/4, pi.

Graphical user interface, text, application

Description automatically generated

**Answer**

I used a Taylor series with 8 terms (including the constant 1) to reach convergence in the fourth decimal place.

Text, table

Description automatically generated with medium confidence