

Laboratory Work 6

Exercise 1:

1. Draw the curve of the function $y(x) = x\sin(x)$ on the interval $[0,10]$ with a step of **0.05**, specifying only the essential parameters.
2. Plot the same curve three times in succession:
 - in green
 - with markers
 - a red dashed line.
3. Superimpose the curves $y(x) = x$ and $y(x) = x\sin(x)$ using one or two successive calls to the plot function.
4. Use the zoom tool to closely inspect the points of tangency.
5. Add a legend to the most recent plot.

Exercise 2:

1. Plot the surface defined by $z(x,y)=x^4-y^4$ for $x=-3:0.3:3$ and $y=x$ using the **fplot3d** command. Then, use the **2D/3D Rotation** option from the **Tools** menu to adjust the viewing angle.
2. Calculate the matrix **Z**, where **Z(i,j)** corresponds to **Z(x(i), y(j))**, using the **feval** function. Next, plot the surface again with the **surf** command.

Exercise 3:

Découper la fenêtre graphique en deux sous-fenêtres identiques et réafficher les dessins D1 et D2 des deux exercices précédents. On pourra utiliser la **subplot**.