**TP03**

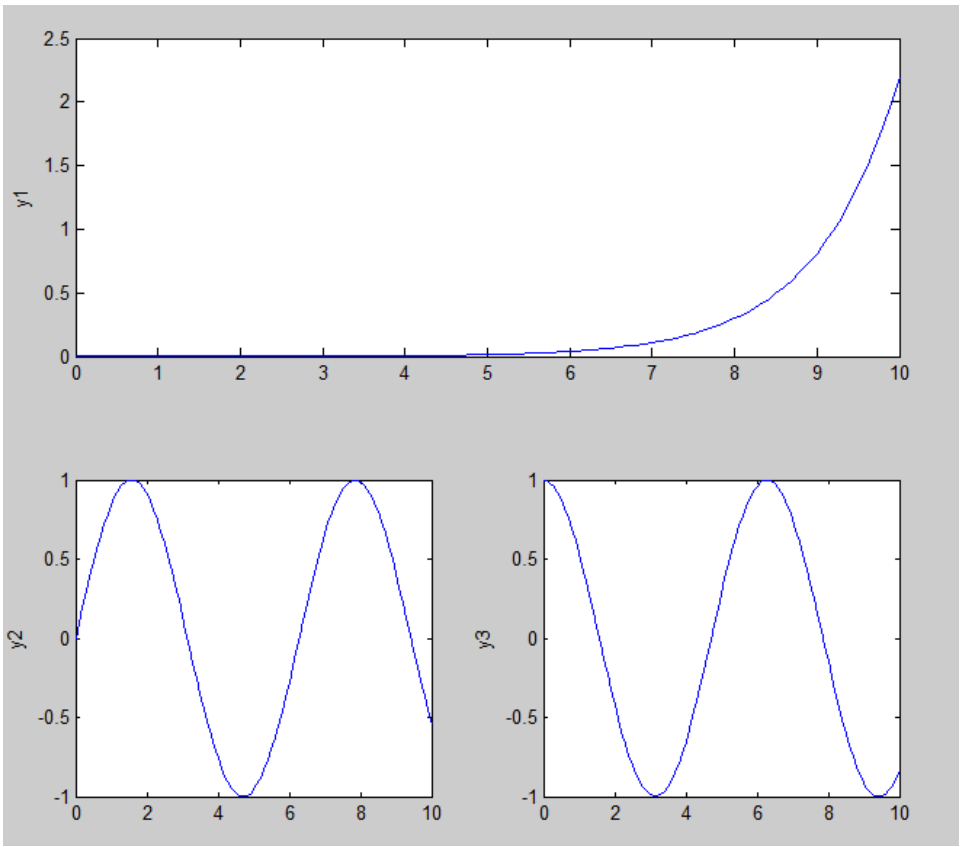
**Goal:** The purpose of this TP is to familiarize yourself with plotting in Matlab.

**Note**: Each exercise must be put separately in different file.

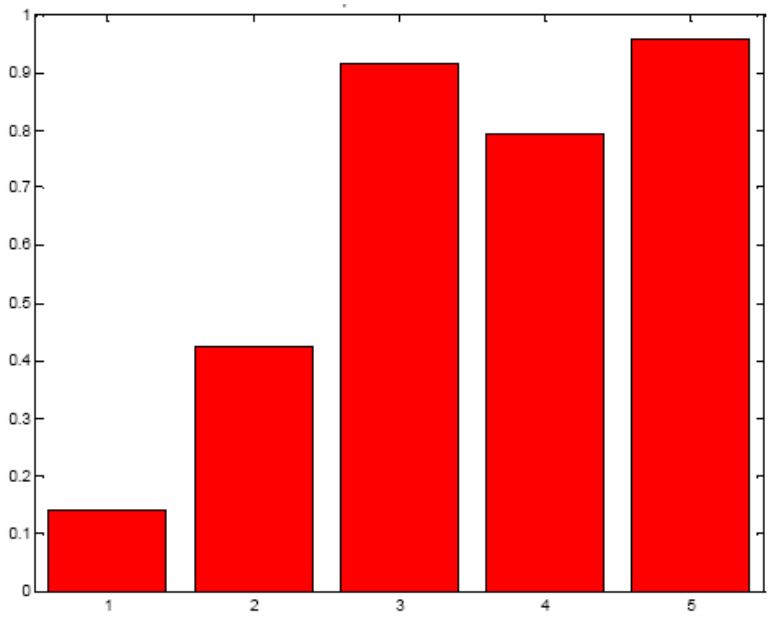
1. Be an equation $y = 3x^2 - 2x + 5$. Draw a curve representing this equation for $x = \{0, 0.5, 1, 1.5, \dots, 10\}$with specifications such as:

- Line width: 2
- Maker: Square
- Marker size: 3
- Line color: Green
- Line style: --
- Title: Curve 01
- X label: axe X
- Y label: axis Y

2. Draw the following figure with, $y_1 = e^x$, $y_2 = \sin(x)$ and $y_3 = \cos(x)$
   For $x = \{0, 0.1, 0.2, 0.3, \dots, 10\}$

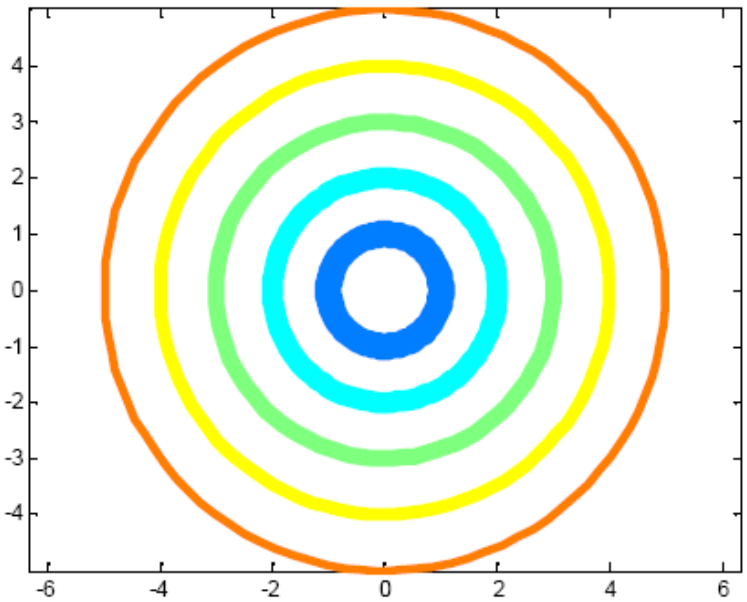


3. Create a vector with 5 random values and trace them in a "bar chart" using the red color as the figure below (use ***bar***).




4. Set functions to draw geometrics:
    a. triangle: ***triangle(x1, y1, x2, y2, x3, y3)***
    b. square: ***square (x, y, size)***
    c. rectangle: ***rectangle (x, y, width, height)***

5. First set a function to draw a ***circle (x, y, radius).*** As a result, modiproud the previous feature by adding another 2 parameters ***color*** and ***size*** setting. Using the new feature, draw a figure like the one displayed below:




**Note:** To get a circle with radius 1 and get the center is at original (0, 0), we have: $x(t) = \cos(t)$ and $y(t) = \sin(t)$ which $t$ in range $[0, 2\pi]$.