## 11. SIMULINK ENVIRONMENT

## 11.1 Steps of Simulink Modelling

- 1. Opening of block library and model window  $\implies$  model composition
- 2. Definition of block values
- 3. Definition of modelling parameters and start of modelling

%%% Example 11.1: Visualization of a harmonic function

## 11.2 Applications

%%%

- 1. Solution of differential equations and continuous signal modelling
- 2. Time series and matrix manipulation resulting in discrete signals modelling
- 3. Real data acquisition using applications libraries and submodels definition

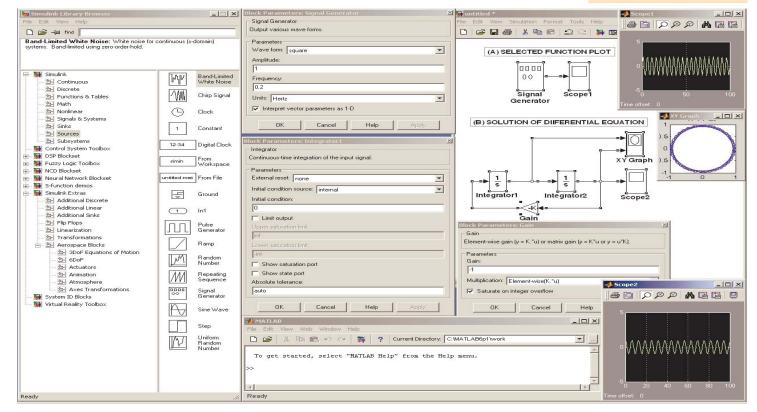
%%% Example 11.2: Solution of differential equation: y''+y=0, y(0)=0, y'(0)=1

%%% Solution: 1. Explicit definition of the highest derivative: y''=-y

%%% 2. Integration and corresponding block definition: y'=int(-y) dy

3. Description of another integration block: y=int(y') dy

BLOCKS
SIGNAL GEN
SINE
CONSTANT
GAIN
SCOPE
XY GRAPH
DISPLAY
FROM/TO
WORKSPACE



## **EXAMPLES 11**

- 11.1 Visualization of selected functions
- 11.2 Solution of given differential equation