```matlab
close all; clearvars; clc
```

TABLES

```matlab
T1 = readtable('ex2_intab.txt');                                    %
 create table T1 from input text file
fprintf("T1 =\n\n")
disp(T1);                                                           %
 print table

Name = {'Jack';'Mary';'Billy'};                                     %
 create names for corresponding field of table T2 [NB: important to define
 them as a column cell-array to match expected dimensions nd avoid errors]
Age = [12;38;25];
Sex = {'M';'F';'M'};
Height = [1.55; 1.69; 1.87];
T2 = table(Name,Age,Sex,Height);                                    %
 create table with all specified fields
fprintf("\nT2 =\n\n")
disp(T2);
```

T1 =

Name	Age	Sex	Height
{'Jack' }	12	{'M'}	1.55
{'Mary' }	38	{'F'}	1.69
{'Billy'}	25	{'M'}	1.87

T2 =

Name	Age	Sex	Height
{'Jack' }	12	{'M'}	1.55
{'Mary' }	38	{'F'}	1.69
{'Billy'}	25	{'M'}	1.87

STRUCT

```matlab
Field3a = 'Name';                                                   %
 define single structure field name
Field3b = 'Age';
Field3c = 'Sex';
Field3d = 'Height';
S3 = struct(Field3a,Name,Field3b,num2cell(Age),Field3c,Sex, ...
    Field3d,num2cell(Height));                                      %
 create structure combining all fields and values
```

```matlab
fprintf("\nS3 =\n\n")
disp(S3);                                                    %
 print table fields
fprintf("\nS3[2] =\n\n")
disp(S3(2));                                                 %
 print table entry in 2nd position


S4.Title = 'SIN';                                           %
 create structure for signal representation (with fields added progressively)
S4.Fs = 8e3;
S4.Fc = 50;
S4.Ncyc = 10;
S4.x = 1/S4.Fs*(0:S4.Fs/S4.Fc*S4.Ncyc-1);
S4.y = sin(2*pi*S4.Fc*S4.x);
figure
plot(S4.x,S4.y)
title(S4.Title);
grid on


S3 =

  3×1 struct array with fields:

    Name
    Age
    Sex
    Height


S3[2] =

      Name: 'Mary'
       Age: 38
       Sex: 'F'
    Height: 1.6900
```
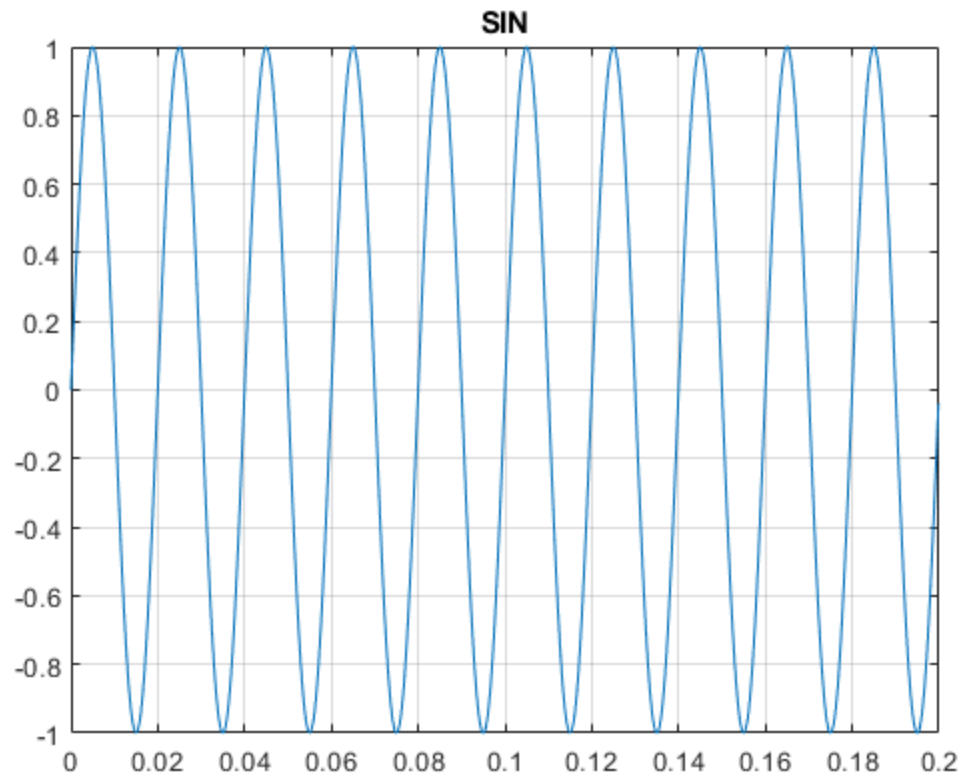
SIN

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