

Solution to HW2

Introduction to MATLAB Course

Table of Contents

Question 1.....	1
Question 2.....	2
Question 3.....	3

Question 1

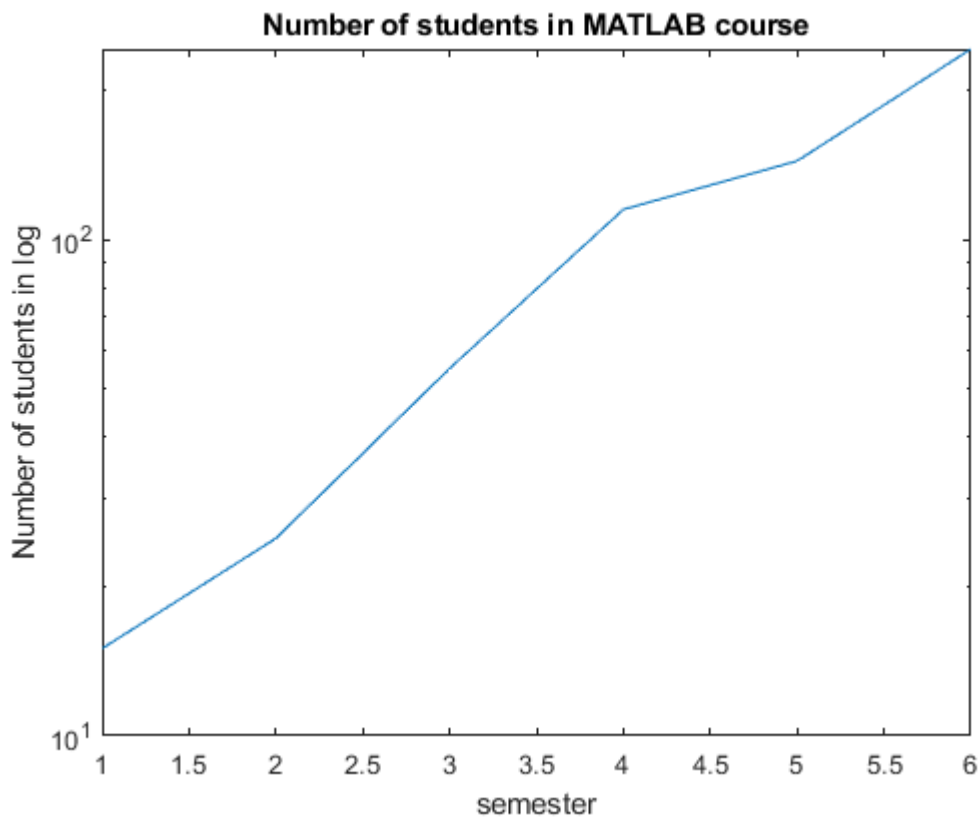
```
clc; clear;
students = [15, 25, 55, 115, 144, 242]

students = 1x6
    15    25    55   115   144   242

n = 1:numel(students)

n = 1x6
     1     2     3     4     5     6

semilogy(n,students)
title('Number of students in MATLAB course');
xlabel('semester');
ylabel('Number of students in log');
```



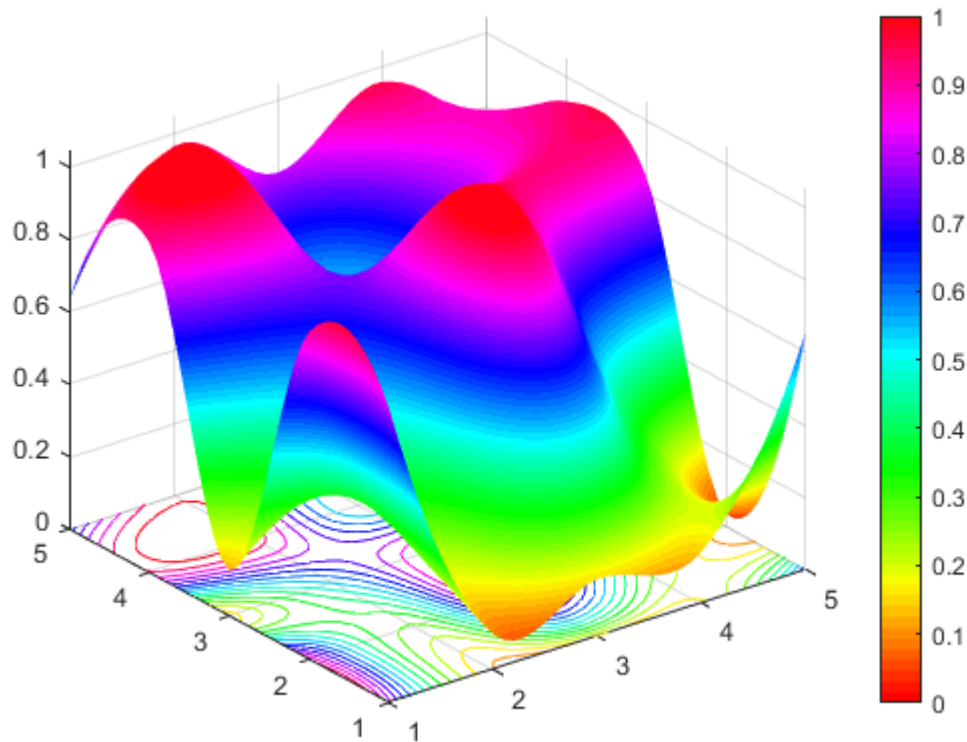
Question 2

```
clc; clear;
Z0 = rand(5,5);
[X0,Y0] = meshgrid(1:5,1:5);
[X1,Y1] = meshgrid(1:0.1:5 , 1:0.1:5);
Z1 = interp2(X0,Y0,Z0,X1,Y1, 'cubic')
```

```
Z1 = 41x41
    0.8147    0.7080    0.6091    0.5180    0.4346    0.3590    0.2911    0.2311 ...
    0.8630    0.7466    0.6395    0.5414    0.4526    0.3729    0.3023    0.2409
    0.9025    0.7784    0.6645    0.5611    0.4680    0.3852    0.3128    0.2508
    0.9334    0.8032    0.6843    0.5768    0.4807    0.3960    0.3226    0.2605
    0.9555    0.8211    0.6988    0.5887    0.4909    0.4052    0.3316    0.2703
    0.9690    0.8321    0.7080    0.5968    0.4984    0.4128    0.3400    0.2800
    0.9737    0.8362    0.7120    0.6010    0.5033    0.4188    0.3476    0.2897
    0.9698    0.8334    0.7106    0.6013    0.5055    0.4233    0.3546    0.2994
    0.9572    0.8238    0.7039    0.5977    0.5051    0.4262    0.3608    0.3090
    0.9358    0.8072    0.6920    0.5903    0.5022    0.4275    0.3663    0.3186
    ...
    ...
    ...
```

```
surf(X1,Y1,Z1)
colormap hsv
shading interp
hold on
contour(X1,Y1,Z1, 15)
colorbar
```

```
caxis([0 1])
```



Question 3

```
% m-filed
```

```
function loopTest(N)
    n = 1:N;

    for ii = 1:N
        %n(ii) = n(ii);
        if(rem(n(ii),2) == 0)
            % n(ii) is dividable by 2
            if (mod(n(ii),3) == 0)
                % n(ii) is dividable by 3
                fprintf('%d is dividable by 2 and 3 \n',n(ii))

            else
                fprintf('%d is dividable by 2 but not 3 \n',n(ii))
                %disp( num2str(n(ii)) + 'num2str(n(ii)) is dividable by 2 but not 3' )
            end

        elseif(mod(n(ii),3) == 0)
            fprintf('%d is dividable by 3 but not 2 \n',n(ii))
        else
```

```
        fprintf('%d is not dividable by 2 or 3\n',n(ii))
        %disp( 'num2str(n(ii)) is not dividable by 2 or 3' )
    end

end

end
```