Contents

Class_Work_7

```
clear all;clc
```

User Defined in Function: M-file function

Function Header: function [output_arguments]=function_name (input_arguments)

```
 % *The M-file should have the same name as the function name (+.m)
% *The M-file must be saved in the working directory
% *Note that when you save the function, you are automatically suggested to name the file a
% *The function name can include alphabetic, numeric and'_' characters
```

Help text: give details about the required inputs and the outputs

Each function should start with its name, then a comment line giving the purpose of the function,

Example: y=x^2

```
x=3;% x can be scalar
y=myfunc1(x)
v=4;%Not necessarily the same local arguments
u=myfunc1(v)
v=1:5;%Input argument can be a vector
u=myfunc1(v)
v=sin(pi/3);%or an expression
u=myfunc1(v)
%b=myfunc1(input('a=? ')) % or a user input
b =     64


y =
     9
u =
    16
```

```
u =
     1     4     9    16    25
u =
    0.7500
b =
    64
```

The function can have more than one output

```
clc;clear all
[r t]=func2(10,3)
[u v]=func2(ones(3),eye(3))


r =
    13
t =
     7
u =
     2     1     1
     1     2     1
     1     1     2
v =
     0     1     1
     1     0     1
     1     1     0
```

class_assignment_7,1

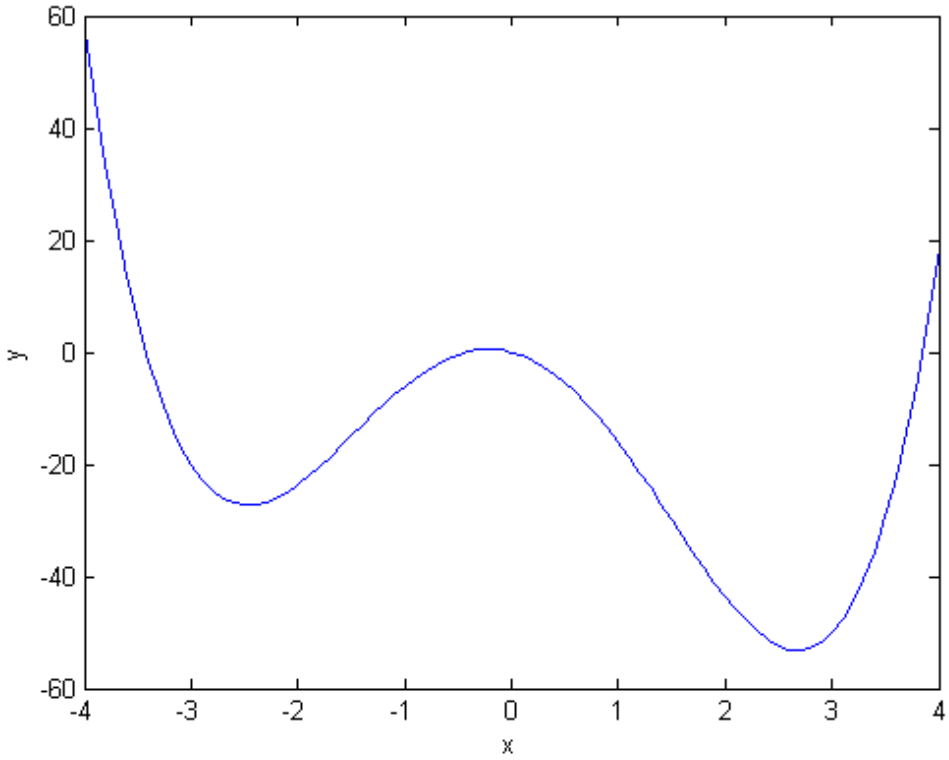
```
clc
r=3;
[p r]=circle(r)


p =
   28.2743
r =
   18.8496
```

class_assignment_7,2

```
clc
y=prob7_2(-3)
y =   -20.1000;
y= prob7_2 (5)
y =   237.5000;
x=-4:0.1:4;
y=prob7_2(x);
plot(x,y), xlabel('x'), ylabel('y')


y =
  -20.1000
y =
  237.5000
```



class_assignment_7,3

```
clc
[x, y, z]=meansize (reshape (1:42,6,7))
```

```
x =
     6
y =
   21.5000
z =
     7
```

class_assignment_7,4

```
clc; clear all
[height,mass]=SI2ST(180,75)
```

```
height =
   70.9200
mass =
  165.1982
```

class_assignment_7,5

```
clc
R=[50 75 300 60 500 180 200];
Req=req(R)
```

```
Req =
   15.1771
```

class_assignment_7,6

Note that this function doesn't return a value.

```
clc
B=reshape(1:35, 5,7);
like_mean(B)


The average of the array is:    18
```

class_assignment_7,7

```
clc
x=8;b=9;z=12;
[s m]=sum_product(x,b,z)


The sum and the product of this array are:    29    and     864
s =
    29
m =
   864
```

class_assignment_7,8

```
clc
A=reshape(1:36,6,6);
B = zeroDiag(A)


B =
     0     7    13    19    25    31
     2     0    14    20    26    32
     3     9     0    21    27    33
     4    10    16     0    28    34
     5    11    17    23     0    35
     6    12    18    24    30     0
```

Another option of zero_Diag

```
clc;
D=reshape(1:25,5,5);
E=zeroDiag1(D)


E =
     0     6    11    16    21
     2     0    12    17    22
     3     8     0    18    23
     4     9    14     0    24
     5    10    15    20     0
```

Another option of zero_Diag

```
clc;
M=reshape(1:49,7,7)';
N=zeroDiag2(M)


N =
```

```
     0     2     3     4     5     6     7
     8     0    10    11    12    13    14
    15    16     0    18    19    20    21
    22    23    24     0    26    27    28
    29    30    31    32     0    34    35
    36    37    38    39    40     0    42
    43    44    45    46    47    48     0
```

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