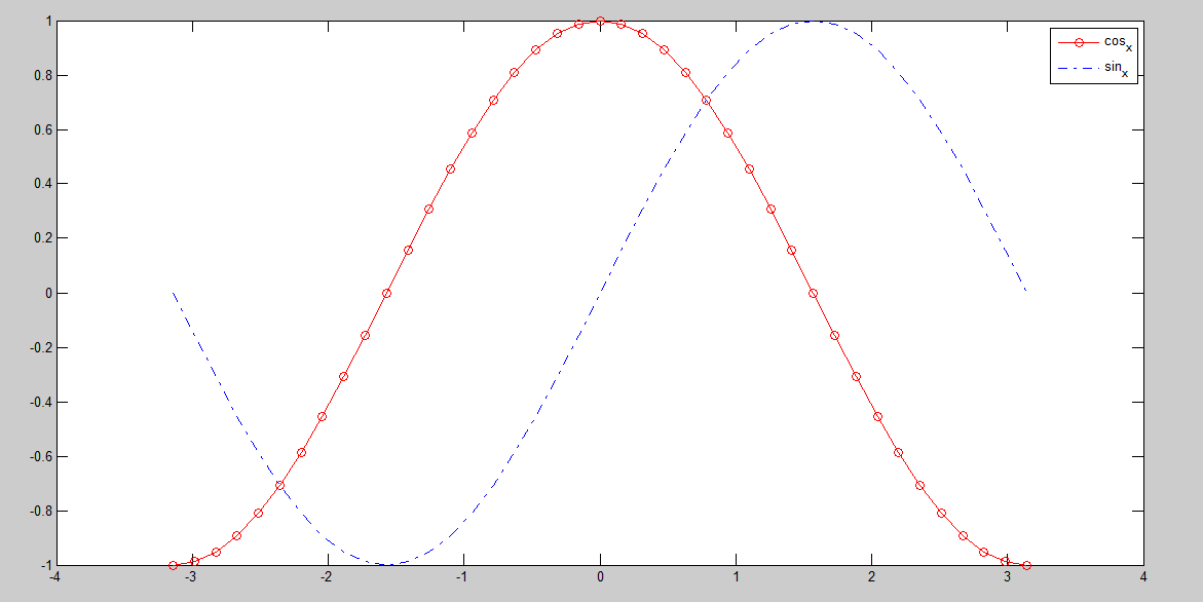
ASSIGNMENT 1

AIM 1:- Write an example of plot function which includes use of xlable, ylable, title and legend.

Code:-

```
figure
x = -pi:pi/20:pi;
plot(x,cos(x),'-ro',x,sin(x),'-.b')
hleg1 = legend('cos_x','sin_x');
```

Output:-

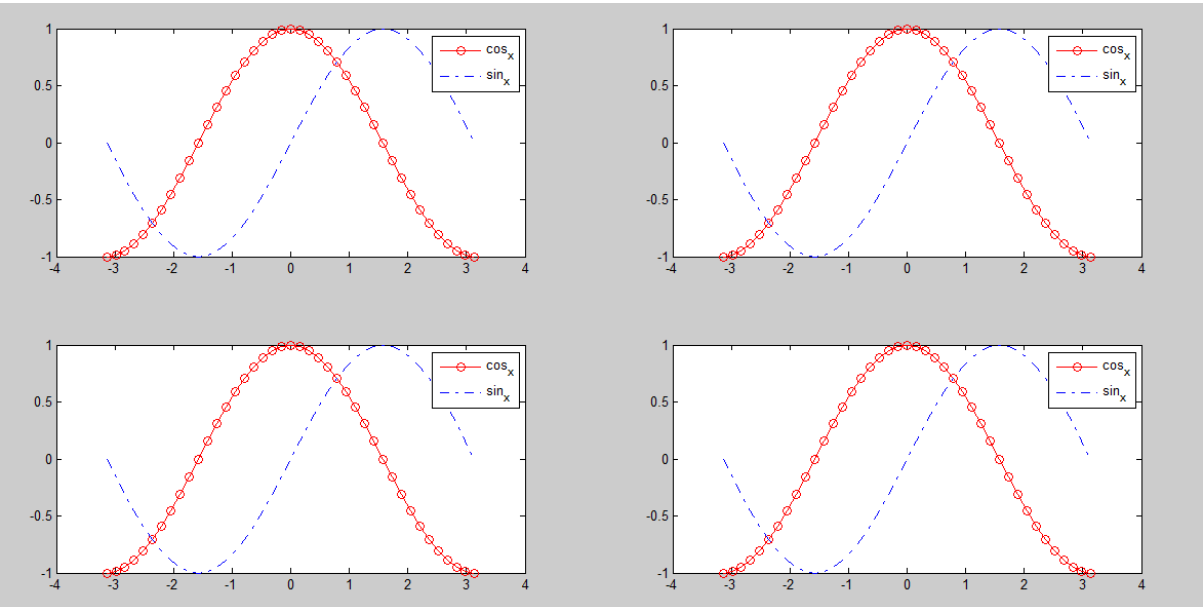


AIM 2:-Write a subplot function with example.

Code:-

```
x = [1:1:10];
y = x;
figure
subplot(2,2,1)
x = -pi:pi/20:pi;
plot(x,cos(x),'-ro',x,sin(x),'-.b')
hleg1 = legend('cos_x','sin_x');

subplot(2,2,2)
x = -pi:pi/20:pi;
plot(x,cos(x),'-ro',x,sin(x),'-.b')
hleg1 = legend('cos_x','sin_x');
subplot(2,2,3)
x = -pi:pi/20:pi;
plot(x,cos(x),'-ro',x,sin(x),'-.b')
hleg1 = legend('cos_x','sin_x');

subplot(2,2,4)
x = -pi:pi/20:pi;
plot(x,cos(x),'-ro',x,sin(x),'-.b')
hleg1 = legend('cos_x','sin_x');
```

Output:-



AIM 3:-Write Matlab programs which indicates use of if-else ,for and while loop.

Code:-

```
disp('Give the input 1.Example of if-else 2.Example of for loop
3.Example of while loop');
result = input('Enter Value of result')
if result==1
    disp('THIS IS IF-ELSE');
elseif result==2
    for i=1:10
        disp('FOR LOOP');
    end
elseif result==3
    n=5;
x=1; i=1;
while i<=n
x=x*i;
i=i+1;
disp('WHILE LOOP');
end
fout = x;
else
    disp('INVALID CHOICE');
end
```

Output:-

Command Window

```
>> assignment13
Give the input 1.Example of if-else 2.Example of for loop 3.Example of while loop
Enter Value of result:-1

result =

     1

THIS IS IF-ELSE
>> assignment13
Give the input 1.Example of if-else 2.Example of for loop 3.Example of while loop
Enter Value of result:-2

result =

     2

FOR LOOP
FOR LOOP
FOR LOOP
FOR LOOP
FOR LOOP
FOR LOOP
FOR LOOP
FOR LOOP
FOR LOOP
FOR LOOP
fx >>
```

Command Window

```
>> assignment13
Give the input 1.Example of if-else 2.Example of for loop 3.Example of while loop
Enter Value of result:-3

result =

     3

WHILE LOOP
WHILE LOOP
WHILE LOOP
WHILE LOOP
WHILE LOOP
fx >>
```

AIM 4:-Create Matlab function with your name which display your basic information. (eg. Name, surname, city, address, phone no).

Code:-

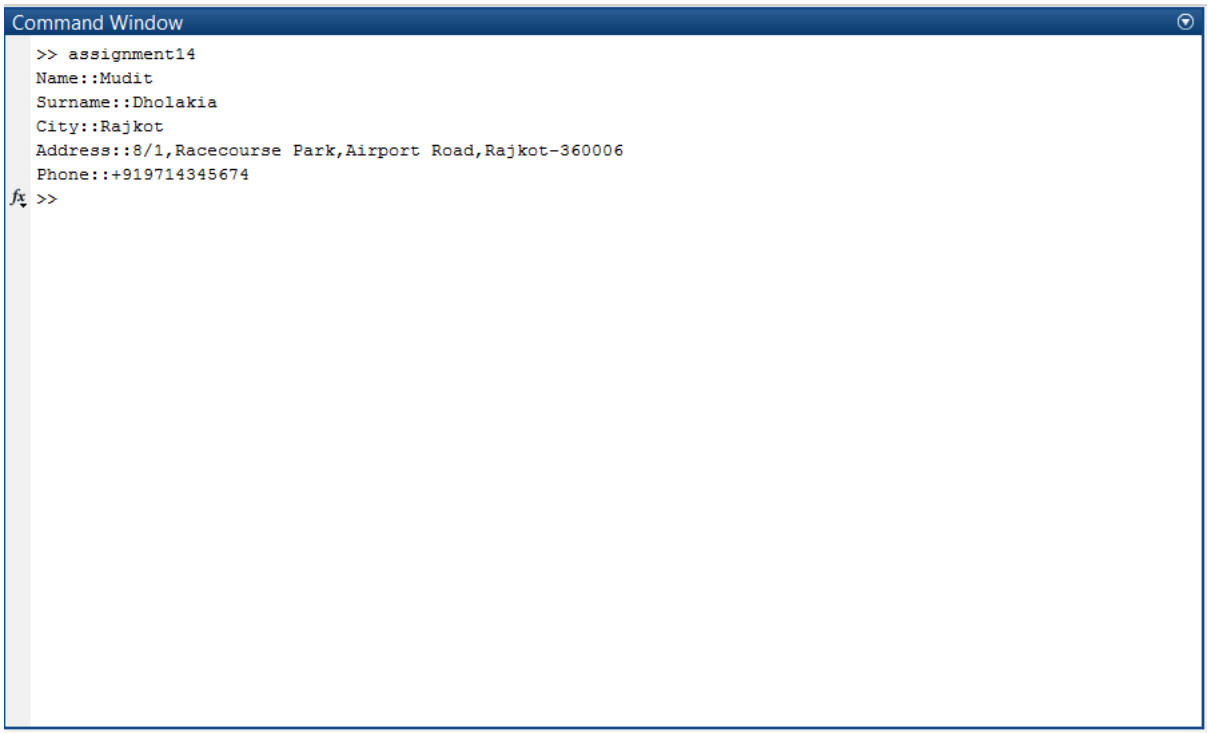
File content [from which function is to be called]:-

```
mudit()
```

File content [function defination]:-

```
function y = mudit( )
%UNTITLED Summary of this function goes here
%   Detailed explanation goes here
disp('Name::Mudit');
disp('Surname::Dholakia');
disp('City::Rajkot');
disp('Address::8/1,Racecourse Park,Airport Road,Rajkot-360006');
disp('Phone::+919714345674');
end
```

Output:-



AIM 5:-Write a function to sort an array using yourname_sort function(x), where x is an array of numbers.

Code:-

File content [from which function is to be called]:-

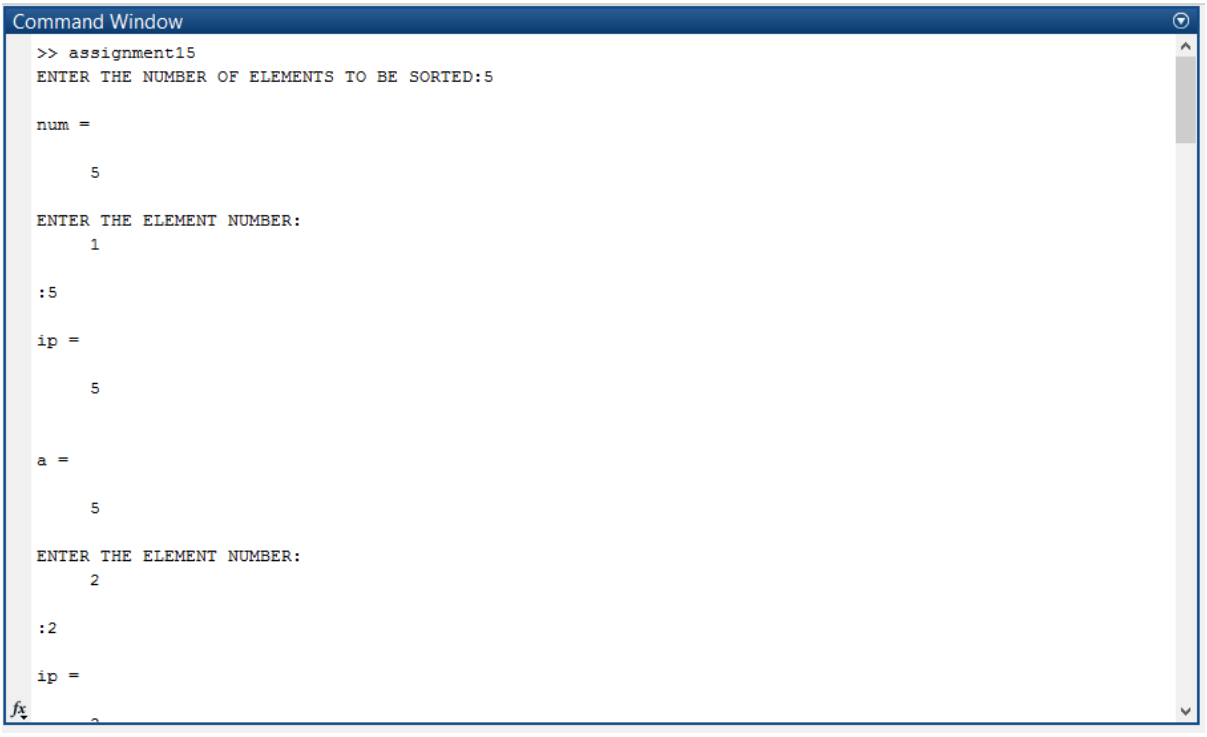
```
num=input('ENTER THE NUMBER OF ELEMENTS TO BE SORTED:')
for i=1:num
    disp('ENTER THE ELEMENT NUMBER:')
    disp(i)
    ip=input(':')
    a(i)=ip
end
disp('For Ascending order press 1 for decending press 2:-->>ENTER:')
typ=input(':')
sorted=mudit_sort(a,num,typ)
disp('Sorted Sequence is:')
for i=1:num
    disp(sorted(i))
end
```

File content [function defination]:-

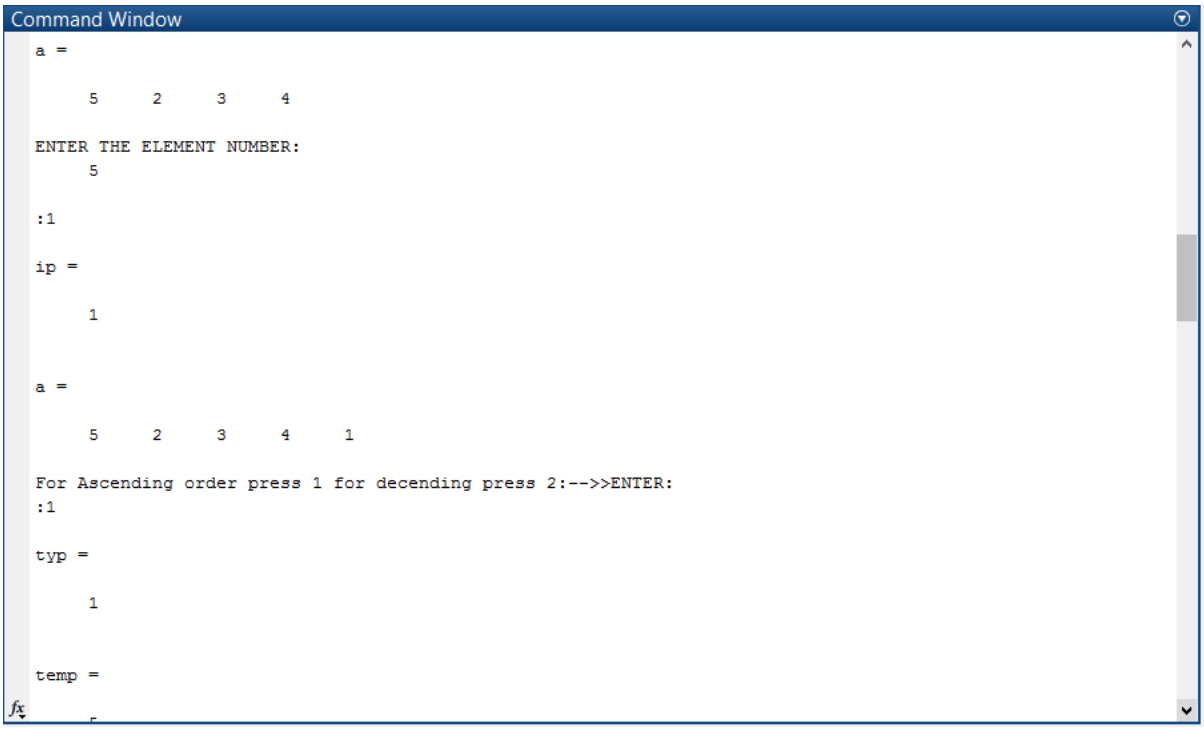
```
function [ sorted ] = mudit_sort( array,ln,tp )
%UNTITLED4 Summary of this function goes here
%   Detailed explanation goes here

if tp==1
for i=1:ln
    for j=1:ln-1
    if array(j)>array(j+1)
        temp=array(j)
        array(j)=array(j+1)
        array(j+1)=temp
    end
    end


end
```

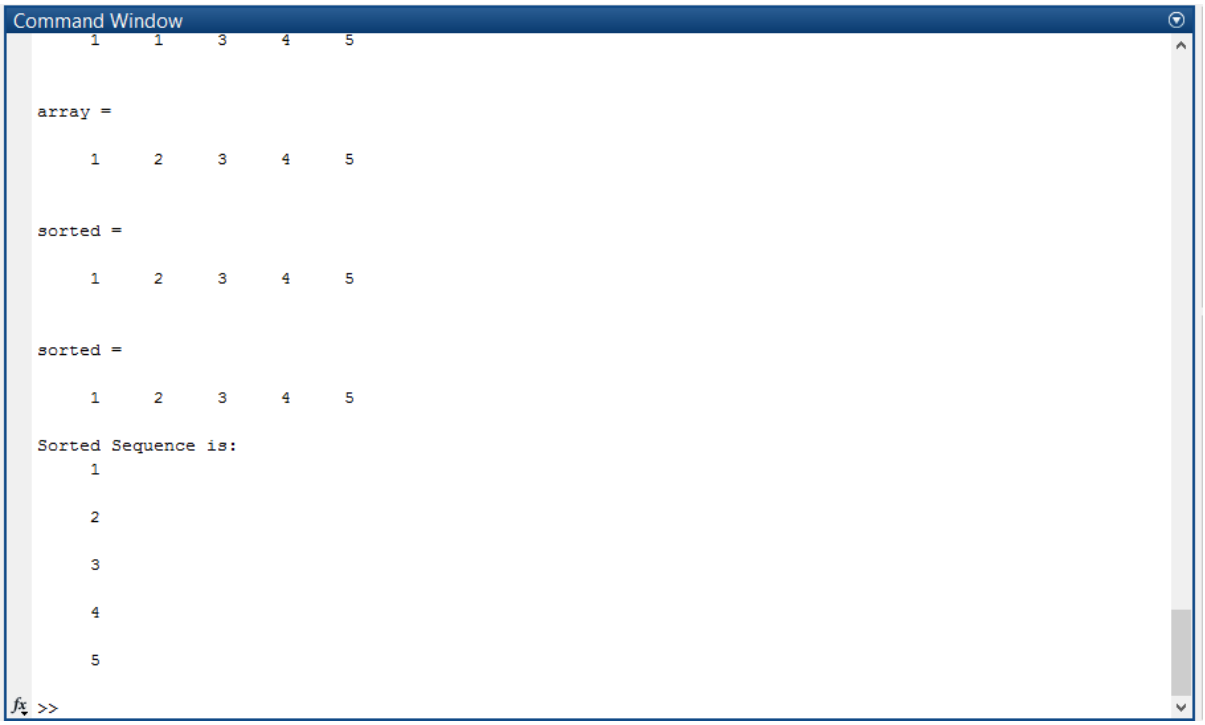
```
else if tp==2
for i=1:ln
    for j=1:ln-1
    if array(j)<array(j+1)
        temp=array(j)
        array(j)=array(j+1)
        array(j+1)=temp
    end
    end


end
end


sorted=array
end
```

Output:-




Command Window
2
a =
5 2
ENTER THE ELEMENT NUMBER:
3
:3
ip =
3
a =
5 2 3
ENTER THE ELEMENT NUMBER:
4
:4
ip =


Command Window
a =
5 2 3 4
ENTER THE ELEMENT NUMBER:
5
:1
ip =
1
a =
5 2 3 4 1
For Ascending order press 1 for decending press 2:-->>ENTER:
:1
typ =
1
temp =


Command Window
1 1 3 4 5
array =
1 2 3 4 5
sorted =
1 2 3 4 5
sorted =
1 2 3 4 5
Sorted Sequence is:
1
2
3
4
5
>>

AIM 6:- Write a matlab program to check whether given number is prime or not.

Code:-

```
num=input('ENTER NUMBER TO CHECK WHEATHER IT IS PRIME OR NOT::');
count=0;
for i=1:num
    if mod(num,i)==0
        count=count+1;
    else
        x=0;
    end
end
if count==2
    disp('IT IS A PRIME NUMBER.')
else
    disp('IT IS NOT A PRIME NUMBER.')
end
```

Output:-