LAB 3 SCIENTIFIC COMPUTING

```
%interactive inputs and outputs
%accepting input from the user
%numeric input
x=input('enter the value of x')
enter the value of x5

x =

     5


y=input('enter the value of y ')
enter the value of y 6

y =

     6


disp('the value of x + y is ')
the value of x + y is
disp(x+y)
    11

%string input
fn=input('enter your first name ','s')
enter your first name Lakshay

fn =

    'Lakshay'


disp('your first name is ')
your first name is
disp(fn)
Lakshay
diary off
%GUI Menu Generation
options=menu('Fruits
Name','Apple','Mango','Orange','Guava')


options =


     0


options=menu('Fruits
Name','Apple','Mango','Orange','Guava')


options =


     4


diary off
x=input('enter the number 10 ');
enter the number 10 5
clear x
diary off
for i=1:5
disp('i')
pause(2)
disp('a pause')
end
i
a pause
i
a pause
i
a pause
i
a pause
```

```
i
a pause
for i=1:5
disp('i')
for i=1:5
disp(i)
disp('a pause of 2 seconds')
pause(2)
end
    1

a pause of 2 seconds
    2

a pause of 2 seconds
    3

a pause of 2 seconds
    4

a pause of 2 seconds
    5

a pause of 2 seconds
for i=1:5
disp('press any key to continue')
pause()
end
press any key to continue
press any key to continue
press any key to continue
press any key to continue
press any key to continue
for i=1:5
disp('press any key to continue')
pause()
disp(i)
end
press any key to continue
    1

press any key to continue
    2

press any key to continue
    3

press any key to continue
    4

press any key to continue
    5

diary off
name=['ram','rahul','ravi']

name =

    'ramrahulravi'

name=["ram","rahul","ravi"]

name =

  1×3 <a href="matlab:helpPopup string" style="font-weight:bold">string</a> array

    "ram"    "rahul"    "ravi"
```

```
name=["ram";"rahul";"ravi"]

name =

  3×1 <a href="matlab:helpPopup string" style="font-weight:bold">string</a> array

    "ram"
    "rahul"
    "ravi"

name=['ram';'rahul';'ravi']
{Dimensions of arrays being concatenated are not consistent.
}
name=char['ram';'rahul';'ravi']
 name=char['ram';'rahul';'ravi']

{Error: Invalid expression. When calling a function or indexing a variable, use parentheses. Otherwise, check for mismatched
delimiters.
}
name=char('ram';'rahul';'ravi')
 name=char('ram';'rahul';'ravi')

{Error: Invalid expression. When calling a function or indexing a variable, use parentheses. Otherwise, check for mismatched
delimiters.
}
name=char('ram','rahul','ravi')

name =

  3×5 <a href="matlab:helpPopup char" style="font-weight:bold">char</a> array

    'ram  '
    'rahul'
    'ravi '

diary off
i=10;
while i!=0
 while i!=0

{Error: Invalid use of operator.
}
i

i =

    10

while i~=0
i--
 i--

{Error: Invalid expression. Check for missing or extra characters.
}
while i~=0
i-=1
 i-=1

{Error: Incorrect use of '=' operator. To assign a value to a variable, use '='. To compare values for equality, use '=='.
}
while i~=0
```

```
i=i-1
disp('subtracting')
end

i =

     9

subtracting

i =

     8

subtracting

i =

     7

subtracting

i =

     6

subtracting

i =

     5

subtracting

i =

     4

subtracting

i =

     3

subtracting

i =

     2

subtracting

i =

     1

subtracting

i =

     0

subtracting
diary off
%overlay plots
theta=[0:pi/2:10]

theta =
```

0 1.5708 3.1416 4.7124 6.2832 7.8540 9.4248

```
plot(theta,sin(theta),'b--',theta,cos(theta),'g--')
%subplots
subplot(2,3,4),plot(theta,cos(theta))
diary off
```

IMPLEMENTAIONS IN PROGRAM

PROGRAM -1

```
%program to implement if-else
%program for accepting input from the user

options = menu('Fruit
Items','Apple','Mango','Orange','Guava','Pine Apple');
if options == 1
   disp('You selected Apple')
end
if options == 2
   disp('You Selected Mango')
end
if options == 3
   disp('You Selected Orange')
end
if options == 4
   disp('You selected Guava')
end
if options == 5
   disp('You Selected Pine Apple')
end
if options == 0
   disp('You Selected Nothing')
end
```

OUTPUT

```
run('D:\Old Laptop Drive\Scientific
Computing\lab_3_program.m')
You Selected Orange
>> run('D:\Old Laptop Drive\Scientific
Computing\lab_3_program.m')
You selected Guava
```

PROGRAM-2

```
%progrma to implement break statement


for i=1:10
   if i==6
      break
   else
      disp(i)
      disp('continuing')
   end
end
```

OUTPUT-

```
run('D:\Old Laptop Drive\Scientific Computing\lab_3_program1.m')
    1


continuing
    2


continuing
    3


continuing
    4


continuing
    5
```

PROGRAM – 3

```
%implementing switch case
disp('enter 1 for apple')
disp('enter 2 for Orange')
disp('enter 3 for Guava')
disp('enter 4 for Pine Apple')
disp('enter 5 for Peech')
choice=input('enter the number');
switch choice
   case 1
      disp('You selected Apple')
   case 2
      disp('You selected Orange')
   case 3
      disp('You selected Guava')
   case 4
      disp('You selected Pine Apple')
   case 5
      disp('You selected Peech')
   otherwise
      error('Ivalid Option')
end
```

OUTPUT-

```
run('D:\Old Laptop Drive\Scientific Computing\lab_3_program2.m')
enter 1 for apple
enter 2 for Orange
enter 3 for Guava
enter 4 for Pine Apple
enter 5 for Peech
enter the number6
Error using lab_3_program2 (line 20)
Ivalid Option
```