**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