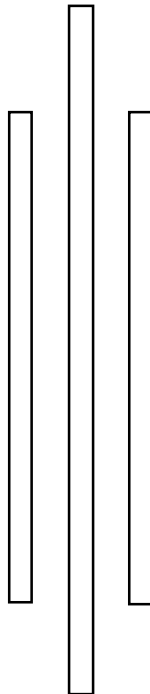


TRIBHUVAN UNIVERSITY



INSTITUTE OF ENGINEERING

Lab Sheet #12



PURWANCHAL CAMPUS

DHARAN-8

Submitted by:

Name: **Arbind Kumar Mehta**

Roll No: **PUR075BCT017**

Faculty: BCT

Group: I/I 'A'

Date:

Submitted to:

Department of

Electronics & Computer

Engineering

Checked by:

Title:

Write A FORTRAN Program (WAFP) to display “Welcome to Fortran Language”.

Code:

! A fortran95 program for G95

! By WQY

program welcome

implicit none

write(*,*) "Welcome to fortran language!"

end

Output (Compilation, Debugging and Testing):

A screenshot of a Windows command prompt window. The title bar shows the file path 'D:\Documents\C.practical\fortran\lab12.1\main.exe'. The window has standard minimize, maximize, and close buttons. The command prompt shows the output of a Fortran program: 'Welcome to fortran language!'. Below this, it shows 'Process returned 0 (0x0) execution time : 1.826 s' and 'Press any key to continue.' The background is black, and the text is white.

Title:

Write a FORTRAN program to read three integers of same width using I format specifier.

Code:

!reading three integer of same width

program main

integer a,b,c

write(*,*), "Enter three integer(width=1) to be stored:"

read(*,101),a,b,c

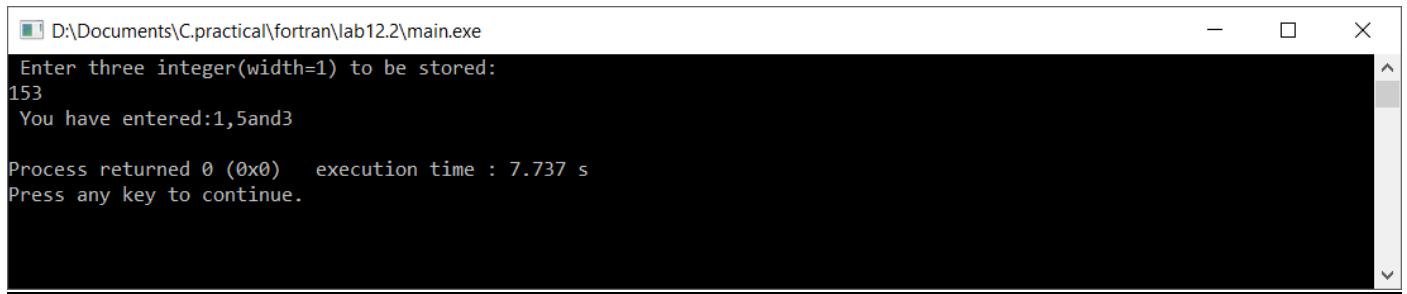
write(*,102), "You have entered:",a,',',b,'and',c

101 Format(I1,I1,I1)

102 Format(A18,I1,A1,I1,A3,I1)

End

Output (Compilation, Debugging and Testing)



```
D:\Documents\C.practical\fortran\lab12.2\main.exe
Enter three integer(width=1) to be stored:
153
You have entered:1,5and3
Process returned 0 (0x0) execution time : 7.737 s
Press any key to continue.
```

Title:

WAFP to read two real numbers in fractional form and display their sum in exponential form.

Code:

!program to find sum

program sum1

real a,b,su1

write(*,*)'Enter two real number:'

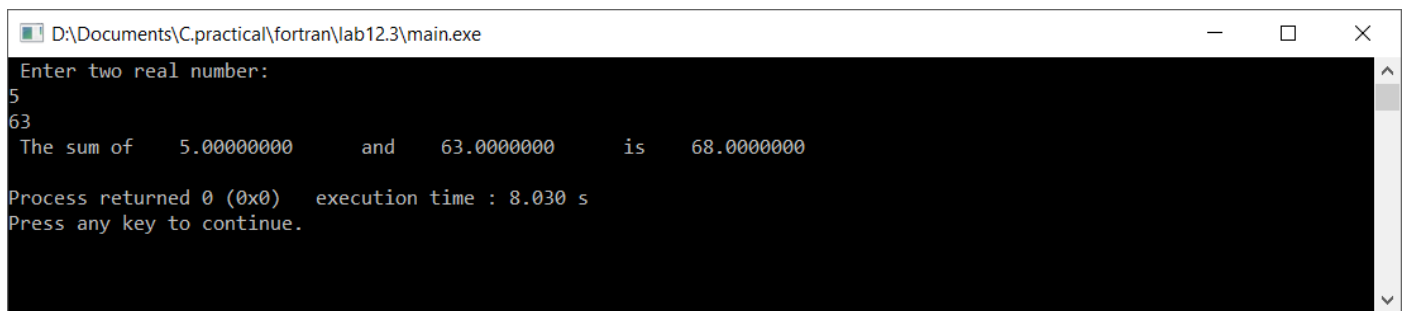
read(*,*)a,b

su1=a+b

write(*,*)'The sum of ',a,' and ',b,' is ',su1

end program

Output (Compilation, Debugging and Testing):



```
D:\Documents\C.practical\fortran\lab12.3\main.exe
Enter two real number:
5
63
The sum of 5.00000000 and 63.0000000 is 68.0000000
Process returned 0 (0x0) execution time : 8.030 s
Press any key to continue.
```

Title:

WAFP to read sex code (1: for male & 2: for female) from user and display corresponding sex using computed GOTO statement)

Code:

!computed GOTO

program main

integer s

write(*,*)"Press 1 for male and 2 for female and 3 for undefined:"

read(*,*),s

GO TO(100, 101,102),s

100 write(*,*)"Congratulation!!! you are male."

stop

101 write(*,*)"Congratulation!!! you are female."

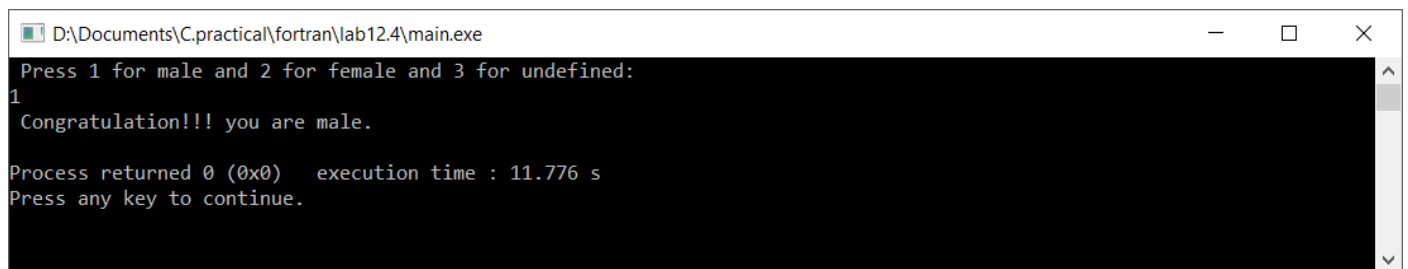
stop

102 write(*,*)"Sorry!!! you are sex is undefined."

stop

end program

Output (Compilation, Debugging and Testing):



```
D:\Documents\C.practical\fortran\lab12.4\main.exe
Press 1 for male and 2 for female and 3 for undefined:
1
Congratulation!!! you are male.
Process returned 0 (0x0)   execution time : 11.776 s
Press any key to continue.
```

Title:

WAFP to read a number from keyboard and display whether it is positive, negative or zero

Code:

!comparing numbers

program main

real n

write(*,*)'Enter a number:'

```

      read(*,*)n
      if(n)100,101,102
100 write(*,*)'You have entered negative number.'
      stop
101 write(*,*)'You have entered Zero.'
      stop
102 print *, 'You have entered positive number.' !x>y .and. x<y is also valid
      stop
end program

```

Output (Compilation, Debugging and Testing):

```

D:\Documents\C.practical\fortran\lab12.5\main.exe
Enter a number:
-9
You have entered negative number.

Process returned 0 (0x0)   execution time : 5.179 s
Press any key to continue.

```

Title:

WAFP to find factorial of a number.

Code:

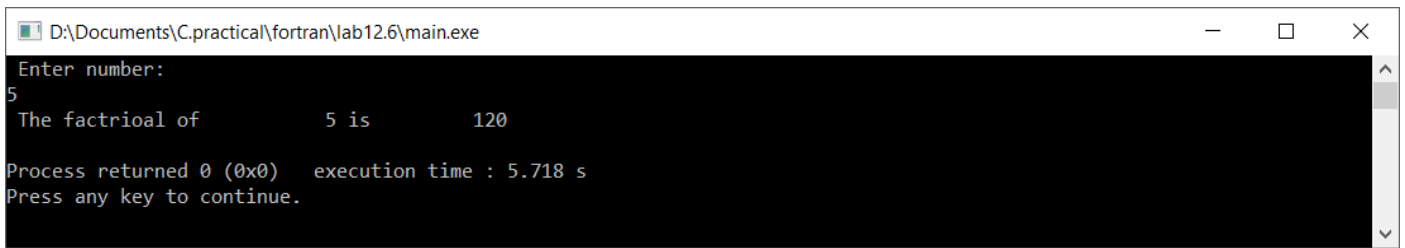
```

!factrioal
program main
  integer n,f,i
  f=1
  write(*,*)'Enter number:'
  read(*,*)n
  do i=1,n
    f=f*i
  enddo

  write(*,*)"The factrioal of",n,"is",f
end program

```

Output (Compilation, Debugging and Testing):



```
D:\Documents\C.practical\fortran\lab12.6\main.exe
Enter number:
5
The factriolal of 5 is 120
Process returned 0 (0x0) execution time : 5.718 s
Press any key to continue.
```

Title:

WAFP to find greatest among five numbers stored in an array.

Code:

!using array

program main

implicit none

integer a(5),i,j

integer ma

data(a(i),i=1,5)/20,-50,110,0,13/

write(*,*)'The array is:'

do i=1,5

write(*,*)a(i)

end do

ma=a(1)

do j=1,5

if(ma.lt.a(j)) then !we can also use '>'or'<' , power=**

ma=a(j)

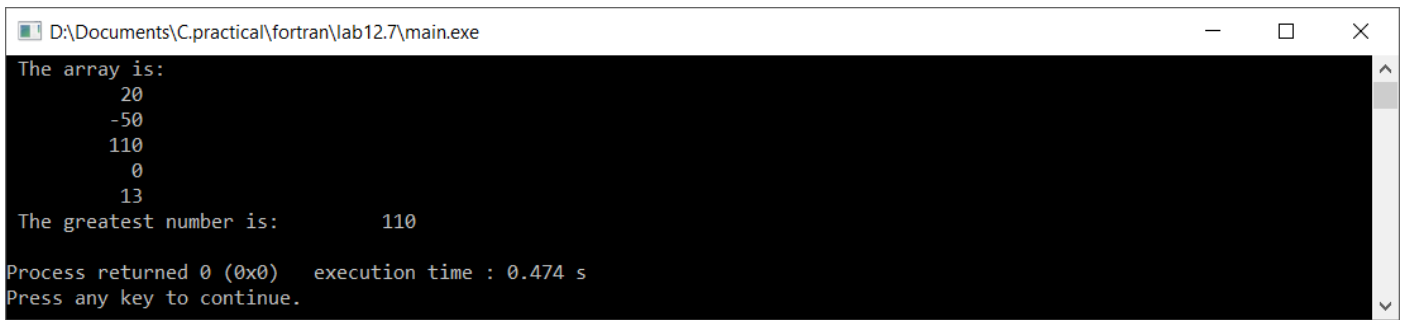
endif

end do

write(*,*)'The greatest number is:',ma

end program main

Output (Compilation, Debugging and Testing):



```
D:\Documents\C.practical\fortran\lab12.7\main.exe
The array is:
  20
 -50
 110
   0
  13
The greatest number is:      110
Process returned 0 (0x0)   execution time : 0.474 s
Press any key to continue.
```

Title:

WAFP to read marks of 10 students in a subject and display top three marks.

Code:

!recording student marks

program main

integer i,j,m(10),temp

write(*,*)'Enter the marks of each student:'

do i=1,10

read(*,*)m(i)

enddo

write(*,*)'You have entered:'

do i=1,10

write(*,*)m(i)

end do

do i=1,9

do j=i+1,10

if(m(i).lt.m(j)) then

temp=m(i)

m(i)=m(j)

m(j)=temp

end if

```

        end do
    end do
    write(*,*)'The top three marks is:',(m(i),i=1,3)
end program

```

Output (Compilation, Debugging and Testing):

```

D:\Documents\C.practical\fortran\lab12.8\main.exe
Enter the marks of each student:
52
23
78
45
96
63
15
84
23
41
You have entered:
    52
    23
    78
    45
    96
    63
    15
    84
    23
    41
The top three marks is:      96      84      78
Process returned 0 (0x0)   execution time : 31.372 s
Press any key to continue.

```

Title:

WAFP to read two matrix of size 3X3 and display the sum matrix. Also display the transpose of the first matrix.

Code:

```

!matrix addition
program matrix
    integer m1(3,3),m2(3,3),m(3,3)

    write(*,*)'Enter the element of first matrix:'
    do i=1,3
        read(*,*)(m1(i,j),j=1,3)
    enddo
    write(*,*)'Enter the element of second matrix:'

```



```

do i=1,3
  read(*,*),(m2(i,j),j=1,3)
enddo
do i=1,3
  do j=1,3
    m(i,j)=m1(i,j)+m2(i,j)
  end do
end do
write(*,*)'The sum of matrix is:.'
do i=1,3
  write(*,*),(m(i,j),j=1,3)
enddo
end program

```

Output (Compilation, Debugging and Testing):

```

D:\Documents\C.practical\fortran\lab12.9\main.exe
Enter the element of first matrix:
-9
4
0
2
3
6
7
8
4
Enter the element of second matrix:
9
7
-6
-3
1
2
15
89
14
The sum of matrix is:
      0      11      -6
     -1       4       8
     22     97     18

Process returned 0 (0x0)   execution time : 26.625 s
Press any key to continue.

```
