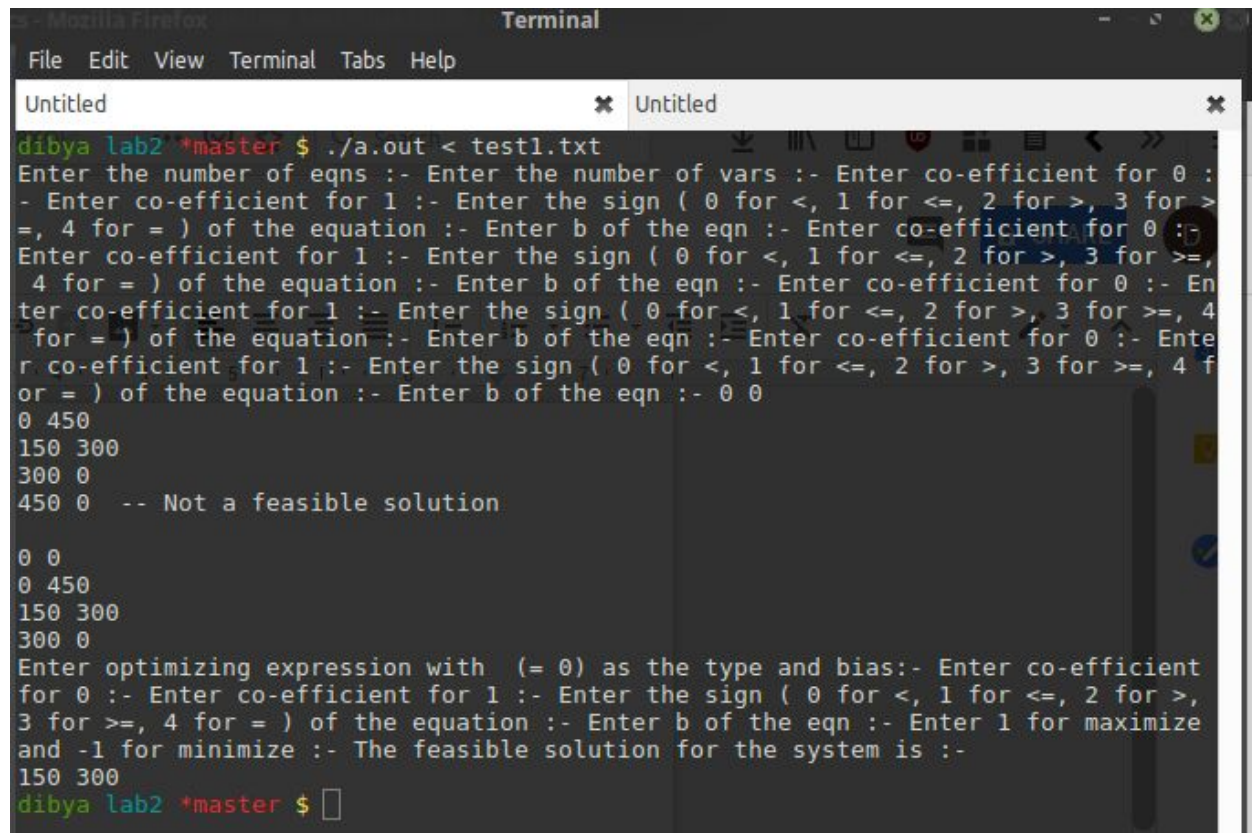


Dibya Prakash Das
16MA20017

Here's the solution image to the first question. Notice that I put the inputs in test1.txt and redirect it to the program for brevity. I've done similarly for other 3 ques.

Q.1



```
dibya lab2 *master $ ./a.out < test1.txt
Enter the number of eqns :- Enter the number of vars :- Enter co-efficient for 0 :-
- Enter co-efficient for 1 :- Enter the sign ( 0 for <, 1 for <=, 2 for >, 3 for >=,
4 for = ) of the equation :- Enter b of the eqn :- Enter co-efficient for 0 :-
Enter co-efficient for 1 :- Enter the sign ( 0 for <, 1 for <=, 2 for >, 3 for >=,
4 for = ) of the equation :- Enter b of the eqn :- Enter co-efficient for 0 :-
Enter co-efficient for 1 :- Enter the sign ( 0 for <, 1 for <=, 2 for >, 3 for >=,
4 for = ) of the equation :- Enter b of the eqn :- 0 0
0 450
150 300
300 0
450 0 -- Not a feasible solution

0 0
0 450
150 300
300 0
Enter optimizing expression with (= 0) as the type and bias:- Enter co-efficient
for 0 :- Enter co-efficient for 1 :- Enter the sign ( 0 for <, 1 for <=, 2 for >,
3 for >=, 4 for = ) of the equation :- Enter b of the eqn :- Enter 1 for maximize
and -1 for minimize :- The feasible solution for the system is :-
150 300
dibya lab2 *master $
```

Q.2 No feasible solution here

```
Terminal
File Edit View Terminal Tabs Help
Untitled x Untitled x
dibya lab2 *master $ ./a.out < test2.txt
Enter the number of eqns :- Enter the number of vars :- Enter co-efficient for 0 :
- Enter co-efficient for 1 :- Enter co-efficient for 2 :- Enter the sign ( 0 for <
, 1 for <=, 2 for >, 3 for >=, 4 for = ) of the equation :- Enter b of the eqn :-
Enter co-efficient for 0 :- Enter co-efficient for 1 :- Enter co-efficient for 2 :
- Enter the sign ( 0 for <, 1 for <=, 2 for >, 3 for >=, 4 for = ) of the equation
:- Enter b of the eqn :- Enter co-efficient for 0 :- Enter co-efficient for 1 :-
Enter co-efficient for 2 :- Enter the sign ( 0 for <, 1 for <=, 2 for >, 3 for >=,
4 for = ) of the equation :- Enter b of the eqn :- Enter co-efficient for 0 :- En
ter co-efficient for 1 :- Enter co-efficient for 2 :- Enter the sign ( 0 for <, 1
for <=, 2 for >, 3 for >=, 4 for = ) of the equation :- Enter b of the eqn :- Ente
r co-efficient for 0 :- Enter co-efficient for 1 :- Enter co-efficient for 2 :- En
ter the sign ( 0 for <, 1 for <=, 2 for >, 3 for >=, 4 for = ) of the equation :-
Enter b of the eqn :- Enter co-efficient for 0 :- Enter co-efficient for 1 :- Ente
r co-efficient for 2 :- Enter the sign ( 0 for <, 1 for <=, 2 for >, 3 for >=, 4 f
or = ) of the equation :- Enter b of the eqn :- 0 0 0 -- Not a feasible solution
Enter optimizing expression with (= 0) as the type and bias:- Enter co-efficient
for 0 :- Enter co-efficient for 1 :- Enter co-efficient for 2 :- Enter the sign (
0 for <, 1 for <=, 2 for >, 3 for >=, 4 for = ) of the equation :- Enter b of the
eqn :- Enter 1 for maximize and -1 for minimize :- The feasible solution for the s
ystem is :-
No optimum solution
dibya lab2 *master $
```

Q.3

```
- Mozilla Firefox Terminal
File Edit View Terminal Tabs Help

Untitled x Untitled x

dibya lab2 *master $ ./a.out < test3.txt
Enter the number of eqns :- Enter the number of vars :- Enter co-efficient for 0 :-
- Enter co-efficient for 1 :- Enter the sign ( 0 for <, 1 for <=, 2 for >, 3 for >=, 4 for = ) of the equation :- Enter b of the eqn :- Enter co-efficient for 0 :-
Enter co-efficient for 1 :- Enter the sign ( 0 for <, 1 for <=, 2 for >, 3 for >=, 4 for = ) of the equation :- Enter b of the eqn :- Enter co-efficient for 0 :-
Enter co-efficient for 1 :- Enter the sign ( 0 for <, 1 for <=, 2 for >, 3 for >=, 4 for = ) of the equation :- Enter b of the eqn :- Enter co-efficient for 0 :-
Enter co-efficient for 1 :- Enter the sign ( 0 for <, 1 for <=, 2 for >, 3 for >=, 4 for = ) of the equation :- Enter b of the eqn :- 0 0
2 0
2 6 -- Not a feasible solution

3 4
5 0 -- Not a feasible solution
vars :- Enter co-efficient for 0 :-
6 16 2 -- Not a feasible solution
equation :- Enter b of the eqn :-
9 0 :- Enter co-efficient for 2 :-
2 0 >=, 4 for = ) of the equation
3 4 - Enter co-efficient for 1 :-
1 for <=, 2 for >, 3 for >=, 4 for = ) of the equation :-
Enter optimizing expression with (= 0) as the type and bias:- Enter co-efficient
for 0:- Enter co-efficient for 1 :- Enter the sign ( 0 for <, 1 for <=, 2 for >,
3 for >=, 4 for = ) of the equation :- Enter b of the eqn :- Enter 1 for maximize
and -1 for minimize :- The feasible solution for the system is :-
3 4 4 for = ) of the equation :-
dibya lab2 *master $ 1 :- Enter
1 for <=, 2 for >, 3 for >=, 4 for = ) of the equation :-
0 0 -- Not a feasible solution
```


Q.4 (Gaussian elimination unable to converge in some solutions)

No optimum solutions thus.

```
Terminal
File Edit View Terminal Tabs Help
Untitled x Untitled x
dibya lab2 *master $ ./a.out < test4.txt
Enter the number of eqns :- Enter the number of vars :- Enter co-efficient for 0 :-
- Enter co-efficient for 1 :- Enter co-efficient for 2 :- Enter the sign ( 0 for <
, 1 for <=, 2 for >, 3 for >=, 4 for = ) of the equation :- Enter b of the eqn :-
Enter co-efficient for 0 :- Enter co-efficient for 1 :- Enter co-efficient for 2 :-
- Enter the sign ( 0 for <, 1 for <=, 2 for >, 3 for >=, 4 for = ) of the equation
:- Enter b of the eqn :- Enter co-efficient for 0 :- Enter co-efficient for 1 :-
Enter co-efficient for 2 :- Enter the sign ( 0 for <, 1 for <=, 2 for >, 3 for >=,
4 for = ) of the equation :- Enter b of the eqn :- Enter co-efficient for 0 :- En
ter co-efficient for 1 :- Enter co-efficient for 2 :- Enter the sign ( 0 for <, 1
for <=, 2 for >, 3 for >=, 4 for = ) of the equation :- Enter b of the eqn :- En
ter co-efficient for 0 :- Enter co-efficient for 1 :- Enter co-efficient for 2 :- En
ter the sign ( 0 for <, 1 for <=, 2 for >, 3 for >=, 4 for = ) of the equation :-
Enter b of the eqn :- Enter co-efficient for 0 :- Enter co-efficient for 1 :- Ente
r co-efficient for 2 :- Enter the sign ( 0 for <, 1 for <=, 2 for >, 3 for >=, 4 f
or = ) of the equation :- Enter b of the eqn :- 0 0 0 -- Not a feasible solution

0 0 1.63694e+20
0 1 0 -- Not a feasible solution

1 0 0 -- Not a feasible solution

1.63695e+20 0 1.63695e+20
0 0 1.63694e+20
1.63695e+20 0 1.63695e+20
Enter optimizing expression with (= 0) as the type and bias:- Enter co-efficient
for 0 :- Enter co-efficient for 1 :- Enter co-efficient for 2 :- Enter the sign (
0 for <, 1 for <=, 2 for >, 3 for >=, 4 for = ) of the equation :- Enter b of the
eqn :- Enter 1 for maximize and -1 for minimize :- The feasible solution for the s
ystem is :-
No optimum solution
dibya lab2 *master $
```