```
%the coefficient of the new variable meu
LHS_C(:,end+1)=0;
%multiply the objective functions by
%the weights and -1, since they are
%maximization, and add them together
%to have a single objective
obj=-1*w1*obj1_n +w2*obj2_n;
%get the RHS to the LHS by negative sign ,
%because it now contains variable meu
LHS_C(:,3)=-1*RHS_C;
%now the RHS is zero
RHS_C(:,1)=0;
%add the new equality constraint of the meu
%as 2 equations, one greater than and one less than
N_LHS_C=cat(1,LHS_C, obj1_2_d,-1*obj1_2_d);
% add the RHS of the two new constraints which is 1 & -1
N_RHS_C=cat(1,RHS_C,[1;-1]);
%solve the new problem using linear programming function
lb=zeros(3,1);
[x,fval]=linprog(obj,N_LHS_C,N_RHS_C,[],[],lb);
fprintf('The optimal objective function value :')
%The new equation is now min, no need to multiply by -1
z=fval
fprintf('The optimal values of the decision variables')
x
```

RUN

```
Optimization terminated.
The optimal objective function value:
z =
  -0.4861
The optimal values of the decision variables
x =
   0.0000
   0.1944
   0.0556
```

6. CONCLUSIONS AND FUTURE WORKS

In this paper, a computational hybrid algorithm and a MATLAB program based on the Charens - Cooper transformation method and the weighting method to generate Pareto optimal solutions for the FLMO problems are introduced. By comparing the results in sections 4 and 5: the hand solution of the numerical example by the computational hybrid algorithm and the solution by the software is the same.

The scientists and the engineers can apply the presented MATLAB program and the hybrid algorithm to different practical FLMO problems to obtain numerical Pareto optimal solutions.

Several algorithms and codes can be built to solve different kinds of FLMO problems using various methods to obtain numerical Pareto optimal solutions.

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