

```

clc;

prompt = {'What Year are you Planning to look to'};
name = 'INPUT YEAR FROM 2019 onwards only!';
numlines = 1;
answwer = inputdlg(prompt,name,numlines);
x = [str2num(answwer{1,1})];

```

```

while x < 2019

    prompt = {'Enter Year 2018 onwards only!'};
    name = 'Invalid Input!';
    numlines = 1;
    answwer = inputdlg(prompt,name,numlines);
    x = [str2num(answwer{1,1})];
end

```

```

list =
{'January','February','March','April','May','June','July','August','September','October','November','December'};

```

```

[indx,tf] = listdlg('PromptString',{'Select a month.','Only one month can be selected at a time.'}, 'SelectionMode','single','ListString',list);

```

```

switch indx

```

```

    case 1

```

```

        T = xlsread('LWAP2018NEW.xlsx','B2:Y32');

```

```

    case 2

```

```

        T = xlsread('LWAP2018NEW.xlsx','B33:Y60');

```

```

    case 3

```

```

        T = xlsread('LWAP2018NEW.xlsx','B61:Y91');

```

```

    case 4

```

```

        T = xlsread('LWAP2018NEW.xlsx','B92:Y121');

```

```

    case 5

```

```

T = xlsread('LWAP2018NEW.xlsx','B122:Y152');

case 6

T = xlsread('LWAP2018NEW.xlsx','B153:Y182');

case 7

T = xlsread('LWAP2018NEW.xlsx','B183:Y213');

case 8

T = xlsread('LWAP2018NEW.xlsx','B214:Y244');

case 9

T = xlsread('LWAP2018NEW.xlsx','B245:Y274');

case 10

T = xlsread('LWAP2018NEW.xlsx','B275:Y305');

case 11

T = xlsread('LWAP2018NEW.xlsx','B306:Y335');

case 12

T = xlsread('LWAP2018NEW.xlsx','B336:Y366');

end

month = char(list(indx));

max = length(T);

if max == 28

MatL = [T(1,1:24) T(2,1:24) T(3,1:24) T(4,1:24) T(5,1:24) T(6,1:24) T(7,1:24) T(8,1:24) T(9,1:24) T(10,1:24)
T(11,1:24) T(12,1:24) T(13,1:24) T(14,1:24) T(15,1:24) T(16,1:24) T(17,1:24) T(18,1:24) T(19,1:24)
T(20,1:24) T(21,1:24) T(22,1:24) T(23,1:24) T(24,1:24) T(25,1:24) T(26,1:24) T(27,1:24) T(28,1:24)];

elseif max == 29

MatL = [T(1,1:24) T(2,1:24) T(3,1:24) T(4,1:24) T(5,1:24) T(6,1:24) T(7,1:24) T(8,1:24) T(9,1:24) T(10,1:24)
T(11,1:24) T(12,1:24) T(13,1:24) T(14,1:24) T(15,1:24) T(16,1:24) T(17,1:24) T(18,1:24) T(19,1:24)
T(20,1:24) T(21,1:24) T(22,1:24) T(23,1:24) T(24,1:24) T(25,1:24) T(26,1:24) T(27,1:24) T(28,1:24)
T(29,1:24)];

elseif max == 30

MatL = [T(1,1:24) T(2,1:24) T(3,1:24) T(4,1:24) T(5,1:24) T(6,1:24) T(7,1:24) T(8,1:24) T(9,1:24) T(10,1:24)
T(11,1:24) T(12,1:24) T(13,1:24) T(14,1:24) T(15,1:24) T(16,1:24) T(17,1:24) T(18,1:24) T(19,1:24)

```

```
T(20,1:24) T(21,1:24) T(22,1:24) T(23,1:24) T(24,1:24) T(25,1:24) T(26,1:24) T(27,1:24) T(28,1:24)
T(29,1:24) T(30,1:24)];
```

```
elseif max == 31
```

```
MatL = [T(1,1:24) T(2,1:24) T(3,1:24) T(4,1:24) T(5,1:24) T(6,1:24) T(7,1:24) T(8,1:24) T(9,1:24) T(10,1:24)
T(11,1:24) T(12,1:24) T(13,1:24) T(14,1:24) T(15,1:24) T(16,1:24) T(17,1:24) T(18,1:24) T(19,1:24)
T(20,1:24) T(21,1:24) T(22,1:24) T(23,1:24) T(24,1:24) T(25,1:24) T(26,1:24) T(27,1:24) T(28,1:24)
T(29,1:24) T(30,1:24) T(31,1:24)];
```

```
end
```

```
numdata = max*24 - 1;
```

```
year = x - 2018;
```

```
maxi = length(MatL);
```

```
maxnum = maxi - 1;
```

```
Matri = zeros(1,maxnum);
```

```
Mat = zeros(1,maxnum);
```

```
for n = 1:maxnum
```

```
    answer = MatL(n+1) - MatL(n);
```

```
    Matri(n) = answer;
```

```
    if answer > 0;
```

```
        Mat(n) = 1;
```

```
    elseif answer == 0;
```

```
        Mat(n) = 0;
```

```
    elseif answer < 0;
```

```
        Mat(n) = -1;
```

```
    end
```

```
end
```

```
aMat = [Mat,1];
```

```
Mattr = repmat(aMat,year);
```

```
Matt = Matrr(1,:);
```

```
maxii = length(Matt);
```

```
Matr = zeros(1,maxii);
```

```
meann = mean(Matri);
```

```
LD = MatL(maxi);
```

```
for m = 1:maxii
```

```
    answerr = LD + meann*(maxi/(maxi+1)).*Matt(m);
```

```
    diff = answerr - LD;
```

```
    meann = (meann*maxi + diff)/(maxi + 1);
```

```
    Matr(m) = answerr;
```

```
    LD = answerr;
```

```
    maxi = maxi + 1;
```

```
end
```

```
Matrr = Matr(end-numdata:end);
```

```
tnum = length(Matrr);
```

```
time = 1:tnum;
```

```
plot(time,Matrr);
```

```
grid on
```

```
title(['Forecasted Price in the month of',list(indx),x]);
```

```
xlabel('Hours','FontSize',12,'FontWeight','bold','Color','r');
```

```
ylabel('Php/MWh','FontSize',12,'FontWeight','bold','Color','r');
```

```
[minii,indi] = min(Matrr);
```

```
timeline = indi/24;
```

```
day = fix(timeline);
```

```
hour = (timeline - day)*24;
```

```
if day < 1
```

```
    if hour == 0
```

```
        hours = 12;
```

```
        tss = 'MN';
```

```
    elseif hour == 12
```

```
        hours = 12;
```

```
        tss = 'NN';
```

```
    elseif hour > 12;
```

```
        hours = (hour - 12);
```

```
        tss = 'PM';
```

```
    elseif hour < 12
```

```
        hours = hour;
```

```
        tss = 'AM';
```

```
    end
```

```
    fprintf('\n\nThe Most Economic Price of Power on %s %.f\n',month,x);
```

```
else
```

```
    if hour == 0
```

```
        hours = 12;
```

```
        tss = 'MN';
```

```
    elseif hour == 12
```

```
        hours = 12;
```

```
        tss = 'NN';
```

```
    elseif hour > 12;
```

```
        hours = (hour - 12);
```

```
        tss = 'PM';
```

```

elseif hour < 12
    hours = hour;
    tss = 'AM';
end

fprintf('\nThe Most Economic Price of Power on %s %.f\n',month,x);

end

fprintf('_____ \n');
fprintf('Day      Time      Price\n');
aba = zeros(1,max);
aa=1;

for aaa=1:max
    MatLD = Matrr(aa:aa+23);
    [miniix,indx] = min(MatLD);
    if indx == 0
        hourss = 12;
        tsss = 'MN';
    elseif indx == 12
        hourss = 12;
        tsss = 'NN';
    elseif indx > 12;
        hourss = (indx - 12);
        tsss = 'PM';
    elseif indx < 12
        hourss = indx;
        tsss = 'AM';
    end
end

```

```
fprintf('_____ \n');  
fprintf('%f      %f %s      Php %.6f\n',aaa,hourss,tsss,miniix);  
aa = aa + 24;  
end
```