Contents


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%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
% ENGR 132
% Program Description
%       ...
%
% Assigment Information
%   Assignment:     PS 03, Problem 1
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%   Team ID:        005
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%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
```

INITIALIZATION

```
%import data
allData =importdata('Data_flight_times.csv');
```

CALCULATIONS

```
%for q1

onTime=allData.data(find(allData.data<=5));
numOnTime = size(onTime);
AOS = (find(allData.data>5&allData.data<=15));
numAOS=size(AOS);
delay=(find(allData.data>15));
numDelay=size(delay);
%find index range of each airport
indexBOS=find( strcmp(allData.textdata,'BOS'))-1;
indexMSP=find( strcmp(allData.textdata,'MSP'))-1;
indexMCO=find( strcmp(allData.textdata,'MCO'))-1;
indexLAS=find( strcmp(allData.textdata,'LAS'))-1;
%find average of delay time in each airports
%avgBOS=mean(allData.data(delay(find(delay>=min(indexBOS)&delay<=max(indexBOS)))));
```

```
%avgMSP=mean(allData.data(delay(find(delay>=min(indexMSP)&delay<=max(indexMSP)))));
%avgMCO=mean(allData.data(delay(find(delay>=min(indexMCO)&delay<=max(indexMCO)))));
%avgLAS=mean(allData.data(delay(find(delay>=min(indexLAS)&delay<=max(indexLAS)))));
avgBOS=mean(allData.data(indexBOS));
avgMSP=mean(allData.data(indexMSP));
avgMCO=mean(allData.data(indexMCO));
avgLAS=mean(allData.data(indexLAS));
%find max,min
maxDelay=max([avgBOS,avgMSP,avgMCO,avgLAS]);
minDelay=min([avgBOS,avgMSP,avgMCO,avgLAS]);
%find index fo EOS
indexEOS=find(allData.data>90|allData.data<-15);
%find number of EOS in each airport
numEOSBOS=size(indexEOS(find(indexEOS>=min(indexBOS)&indexEOS<=max(indexBOS))));
numEOSMSP=size(indexEOS(find(indexEOS>=min(indexMSP)&indexEOS<=max(indexMSP))));
numEOSMCO=size(indexEOS(find(indexEOS>=min(indexMCO)&indexEOS<=max(indexMCO))));
numEOSLAS=size(indexEOS(find(indexEOS>=min(indexLAS)&indexEOS<=max(indexLAS))));
%for q2
```

FORMATTED TEXT DISPLAYS

```
fprintf('Ans for questionA:\nThe total number of on-time is %d, acceptably off-schedule is
 %d, and delayed flights is %d\n\n',numOnTime(1,1),numAOS(1,1),numDelay(1,1));
fprintf('Ans for questionB:\nBOS airport has the largest average departure delay,which is
%.2f and MSP has the smallest average departuredelay,which is %.2f\n\n',maxDelay,minDelay)
;
fprintf('Ans for questionC:\nThe number of excessively off-schedule departures for BOS is
%d\nthe number of excessively off-schedule departures for MSP is %d\nthe number of excessi
vely off-schedule departures for MCO is %d\nthe number of excessively off-schedule departu
res for LAS is %d\n',numEOSBOS(1),numEOSMSP(1),numEOSMCO(1),numEOSLAS(1));
```

```
Ans for questionA:
The total number of on-time is 371, acceptably off-schedule is 39, and delayed flights is
90

Ans for questionB:
BOS airport has the largest average departure delay,which is 12.10 and MSP has the smalles
t average departuredelay,which is 6.17

Ans for questionC:
The number of excessively off-schedule departures for BOS is 7
the number of excessively off-schedule departures for MSP is 2
the number of excessively off-schedule departures for MCO is 6
the number of excessively off-schedule departures for LAS is 5
```

ANALYSIS

-- Q1

```
%The average annual delayed percentage for each airport was about 20%, while
%for our flight system, the annual delayed percentage was about 18%, meaning
%that our flight system was more efficient than that of the USDT.
```

ACADEMIC INTEGRITY STATEMENT

I/We have not used source code obtained from any other unauthorized source, either modified or unmodified. Neither have I/we provided access to my/our code to another. The project I/we am/are submitting is my/our own original work.

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