

```

clc

data = readtable('bridge data.xlsx');
MAX_SPAN_LEN_MT = data(:,3);
STRUCTURE_LEN_MT = data(:,4);
YEAR_BUILT = data(:,1);

[minMAX_SPAN_LEN_MT, maxMAX_SPAN_LEN_MT] = bounds(MAX_SPAN_LEN_MT);
[minSTRUCTURE_LEN_MT, maxSTRUCTURE_LEN_MT] = bounds(STRUCTURE_LEN_MT);

spanMean = mean(MAX_SPAN_LEN_MT);
spanMode = mode(MAX_SPAN_LEN_MT);
spanMedian = median(MAX_SPAN_LEN_MT);
spanStd = std(MAX_SPAN_LEN_MT);

strucMean = mean(STRUCTURE_LEN_MT);
strucMode = mode(STRUCTURE_LEN_MT);
strucMedian = median(STRUCTURE_LEN_MT);
strucStd = std(STRUCTURE_LEN_MT);

disp("      MAX_SPAN_LEN_MT: ");
disp(" ")
disp(['Bounds: ', 'Min = ', num2str(minMAX_SPAN_LEN_MT), ' ', 'Max = ',
num2str(maxMAX_SPAN_LEN_MT)]);
disp(['Mean: ', num2str(spanMean)]);
disp(['Mode: ', num2str(spanMode)]);
disp(['Median: ', num2str(spanMedian)]);
disp(['Standard Deviation: ', num2str(spanStd)]);
disp(" ")

disp("      STRUCTURE_LEN_MT: ");
disp(" ")
disp(['Bounds: ', 'Min = ', num2str(minSTRUCTURE_LEN_MT), ' ', 'Max = ',
num2str(maxSTRUCTURE_LEN_MT)]);
disp(['Mean: ', num2str(strucMean)]);
disp(['Mode: ', num2str(strucMode)]);
disp(['Median: ', num2str(strucMedian)]);
disp(['Standard Deviation: ', num2str(strucStd)]);

summary(data)

decade = InitDecade;
index = ComputeIndex(YEAR_BUILT);

numBridges = ComputeNumBridges(data, 1);
laneSum = ComputeDecadeSum(data, 2);
spanSum = ComputeDecadeSum(data, 3);
lengthSum = ComputeDecadeSum(data, 4);

avgNumLanes = ComputeAvg(laneSum, numBridges);
avgMaxSpanLength = ComputeAvg(spanSum, numBridges);
avgLength = ComputeAvg(lengthSum, numBridges);

T = table(decade, numBridges, avgNumLanes, avgMaxSpanLength, avgLength);

writetable(T, 'BridgeDecadeData.xlsx', 'WriteVariableNames', true)

%bar(decade(2:13), numBridges(2:13));

```

```
%bar(decade(2:13), avgNumLanes(2:13));  
%bar(decade(2:13), avgMaxSpanLength(2:13));  
%bar(decade(2:13), avgLength(2:13));
```