1. Write a function that will receive as an input argument a temperature in degrees Fahrenheit, and will return the temperature in both degrees Celsius and Kelvin. The conversion factors are C = (F – 32) \* 5/9 and K = C + 273.15. Write a script to use the developed function.
2. A vector can be represented by its rectangular coordinates x and y or by its polar coordinates r and theta. For positive values of x and y, the conversions from rectangular to polar coordinates in the range from 0 to 2 pi are r=sqrt(x^2+y^2) and theta=atan(y/x). Write a function recpol to receive as input arguments the rectangular coordinates and return the corresponding polar coordinates. Write a script to use the developed function.
3. Write a program that takes a list of students’ scores in an exam (stored in an array) and computes their grades. (A >=90%, 90>B>=80, 80>C>=70, 70>D>=60, 60>F) and store them in an array.

The program should make use of a function scoreToGrade which takes in one score and returns the corresponding grade.

Example:

Input: A= [74 82 41 55 68 98]

Output: G= [C B F D C A]

1. Write a script that will:
   1. Call a function to prompt the user for an angle in degrees.
   2. Call a function to calculate and return the angle in radians.
   3. Call a function to print the result.

Write all of the functions as well. Note that the solution to this problem involves four M-files: one which acts as a main program (the script shown below), and three for the functions.

d=getInput(); % getInput is a function that prompt the user for an angle in degrees.

r=convertDeg(d); % deg2rad is function to calculate and return the angle in radians.

showValue(r); % showValue is a function to print r.

1. Write a program to print a length conversion chart. It will print lengths in feet, from 1 to an integer specified by the user, in one column and the corresponding length in meters (1 foot = 0.3048 m) in a second column. The main script will call one function that prompts the user for the maximum length in feet; this function must error-check to make sure that the user enters a valid positive integer. The script then calls a function to write the lengths to the screen.
2. Write a program that reads the departure time and the trip time of n trains and calculate the arrival time of each train (assume no trip spans over two days). Use functions to calculate the arrival time.

Example:

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Enter Number of Train Trips: 2

Trip 1:

Depart Time HH: 5

Depart Time MM: 20

Trip Time HH: 4

Trip Time MM: 10

Arrival Time- 9:30

Trip 2:

Depart Time HH: 8

Depart Time MM: 10

Trip Time HH: 1

Trip Time MM: 55

Arrival Time- 10:5

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