function [X\_poly] = polyFeatures(X, p)

%POLYFEATURES Maps X (1D vector) into the p-th power

% [X\_poly] = POLYFEATURES(X, p) takes a data matrix X (size m x 1) and

% maps each example into its polynomial features where

% X\_poly(i, :) = [X(i) X(i).^2 X(i).^3 ... X(i).^p];

%

% You need to return the following variables correctly.

X\_poly = zeros(numel(X), p);

m=length(X)

% ====================== YOUR CODE HERE ======================

% Instructions: Given a vector X, return a matrix X\_poly where the p-th

% column of X contains the values of X to the p-th power.

%

%

for j=1:1:p

for i=1:m

X\_poly(i,j)=X(i)^j;

end

end

% =========================================================================

end