1. Title **of the project**: Car Acceptancy Prediction Tool
2. Team:
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6. Problem definition: We are looking forward to implementing a tool which caters to re-sale car dealers. Usually customers bring their cars to re-sale garages where a dealer inspects them physically and use their experience to judge the re-sale value, it may/may not appeal to the customer which may lead to cumbersome negotiations. Instead if the garage has a portal where customer can input the car specifications like number of doors, persons occupied, boot space available, anticipated price, maintenance cost etc. and our model predicts if we can/cannot accept the car for anticipated price and we can give an estimate of reduced price.
7. Motivation:
   1. Why is it interesting?
      * + We wanted to understand how can we integrate a Machine Learning model in a real time tool. Since we are newbies in this area, we wish to keep the problem statement simple and work around/understand various classification algorithms.
   2. Where do you think it's going to be used, i.e., application area?
      * It can be used in all Re-Sale Garages.
8. Literature review: We have observed this dataset has been used in two research papers [1][2] for Multi-attribute decision making. We will also refer through online articles [3] and tutorials to complete our tasks.
9. Dataset:

* <https://archive.ics.uci.edu/ml/datasets/Car+Evaluation>

1. Proposed method**:**

We wanted to try all possible classification algorithms, compare and visualize.

* K – Nearest Neighbor
* Naïve Bayes Algorithm
* Support Vector Machines
* Decision Trees and
* Random Forest

1. Evaluation: We will compare the train data to test data and provide all the performance and model evaluation metrics.
2. List of references:

[1] M. Bohanec and V. Rajkovic: Knowledge acquisition and explanation for multi-attribute decision making. In 8th Intl Workshop on Expert Systems and their Applications, Avignon, France. pages 59-78, 1988.  
[[Web Link]](http://rexa.info/paper/5e2ae6fa6748dfe24067bb2b59823f2df3f7ed73)

[2] B. Zupan, M. Bohanec, I. Bratko, J. Demsar: Machine learning by function decomposition. ICML-97, Nashville, TN. 1997 (to appear)  
[[Web Link]](http://rexa.info/paper/0f23f96c4a89bbb221a151f5db381924c17a6eaa)

[3] <https://medium.com/@Mandysidana/machine-learning-types-of-classification-9497bd4f2e14>