***Difference between C4.5 , Cart and ID3***

* **ID3** algorithm select the bast attribute based on the concept of entropy and information gain for developing tree. ***C4.5*** also behave same but provide some extra features like use of **continuous data ,using unkown missing values and ability to use attribute with different weights etc**
* **Cart** test are always binary. Cart use the Gini delivery index for classifying. Cart look for alternative tests that approximate the result when tested attribute has an unknown value.
* In **Cart** non leaf nodes always have two children . In **ID3**  no leaf nodes might have more than two children.

***How to Avoid Overfitting in Decision tree***

* Stop growing when data split is not statistically significant
* Acquire more training data.
* Remove irrelevant attributes
* Grow full tree, then post-prune
* To select best tree measure performance over training data