

# Introduction to Decision Tree

# What have we covered till now?

- kNN
- Linear Regression
- Logistic Regression
- Ridge
- Lasso

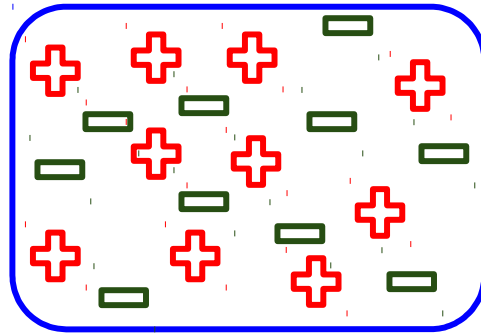
# Decision Tree

# What we will be covering in this module?

- What is Decision Tree?
- Terminologies related to Decision Trees
- Different splitting criterion in Decision Trees
- Pros / Cons of Decision Trees
- Implementation of Decision Tree in Python

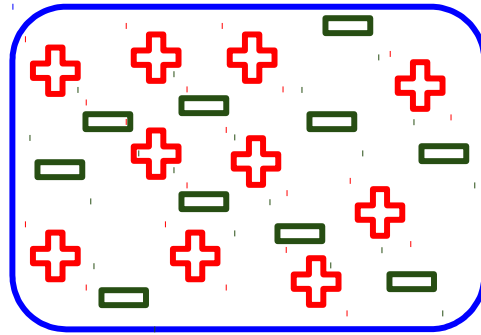
# What is Decision Tree?

# What is Decision Tree?



Total number of students  
= 20

# What is Decision Tree?

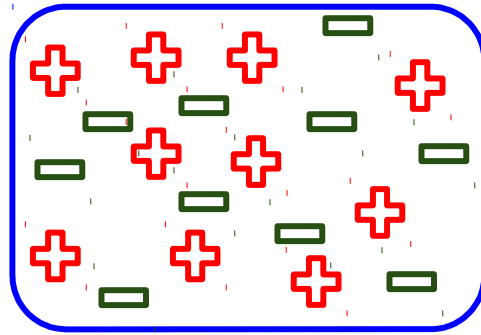


Total number of students  
= 20

Play cricket = 10

# What is Decision Tree?

- Height
- Performance in  
Class
- Class



Total number of students  
= 20

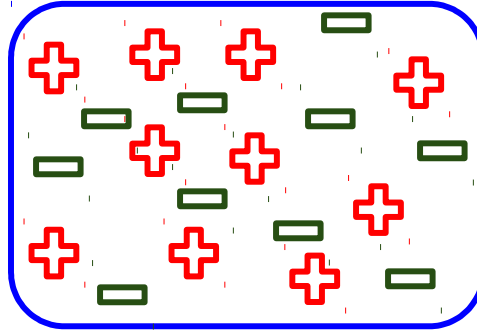
Play cricket = 10

Do not play cricket = 10



# What is Decision Tree?

- Height
- Performance in  
Class
- Class



Students = 20

Play Cricket =

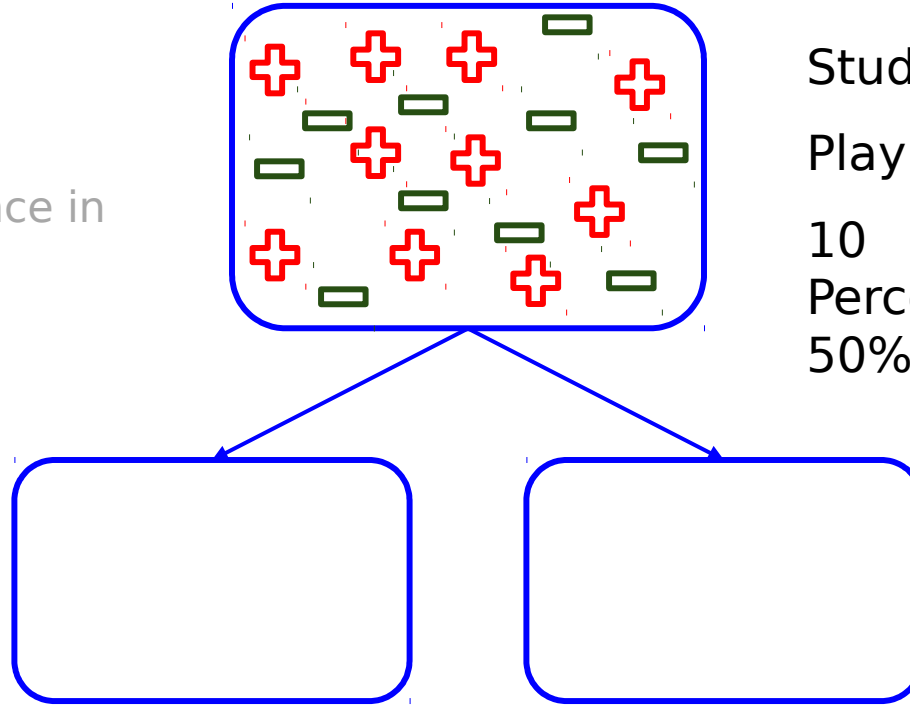
10

Percentage =

50%

# What is Decision Tree?

- Split on Height
- Split on Performance in Class
- Split on Class



Students = 20

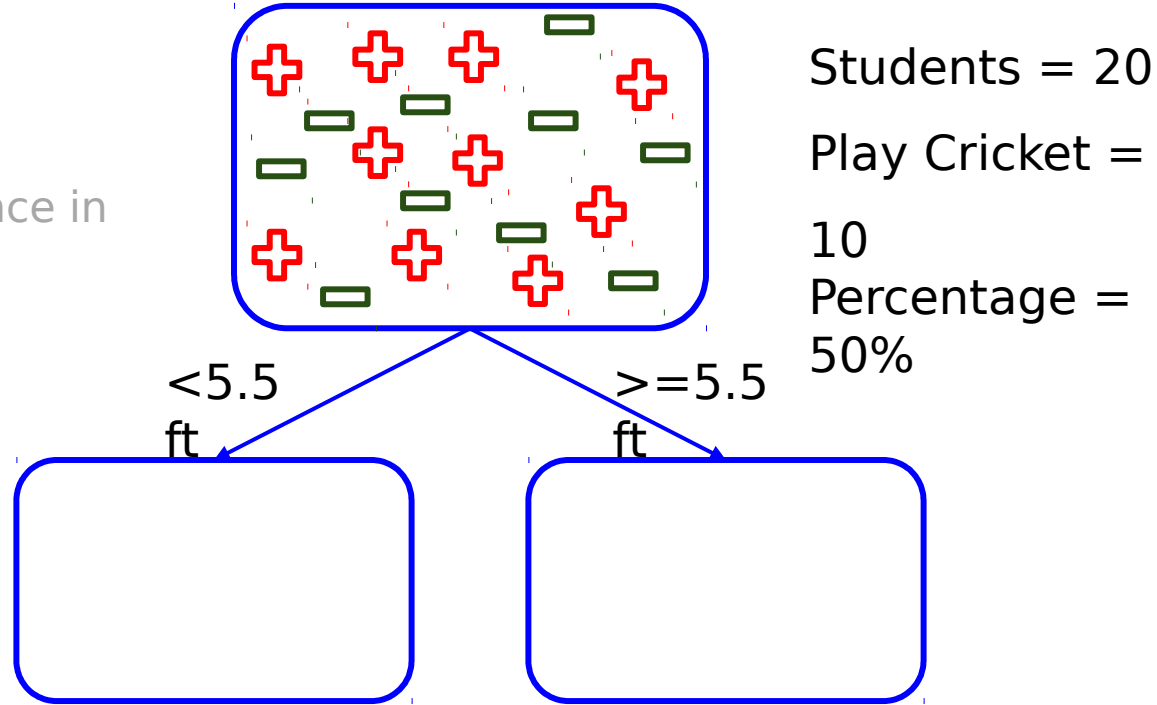
Play Cricket =

10

Percentage =  
50%

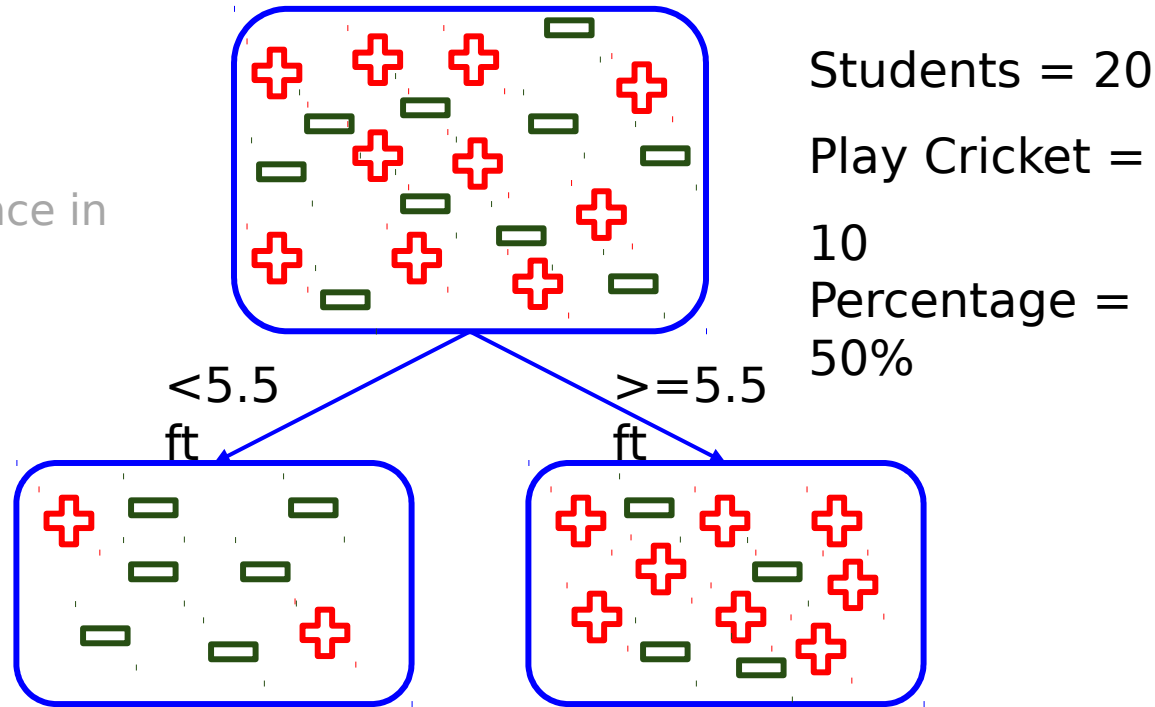
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- Split on Height
- Split on Performance in Class
- Split on Class



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- Split on Height
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# What is Decision Tree?

- Split on Height
- Split on Performance in Class
- Split on Class

Students = 20

Play Cricket =

10

Percentage = 50%

<5.5  
ft

>=5.5  
ft

Students = 8

Play Cricket = 2

Percentage = 25%

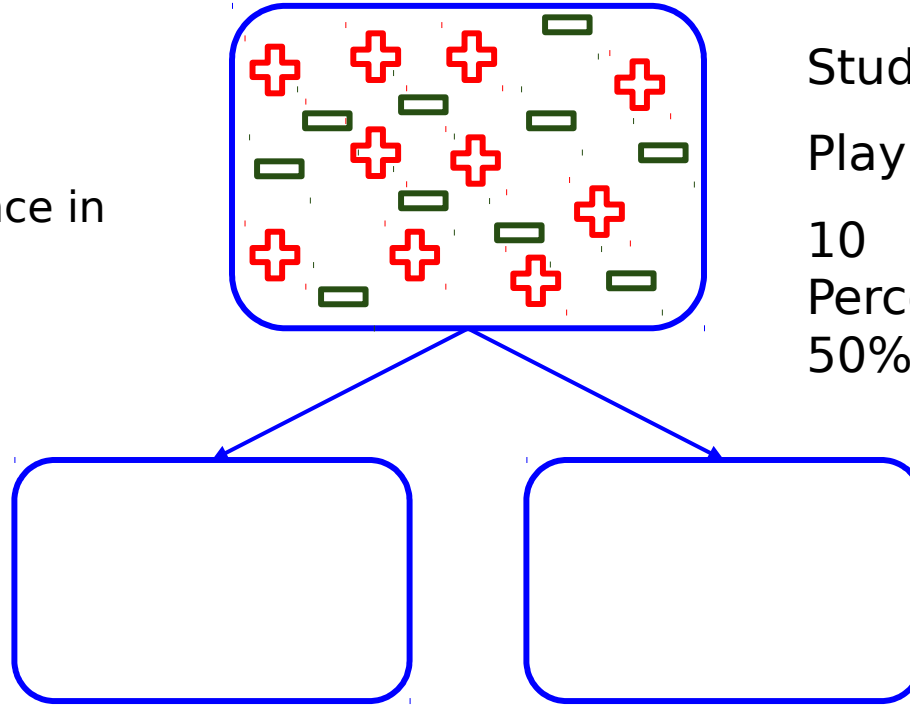
Students = 12

Play Cricket = 8

Percentage = 66.67%

# What is Decision Tree?

- Split on Height
- Split on Performance in Class
- Split on Class



Students = 20

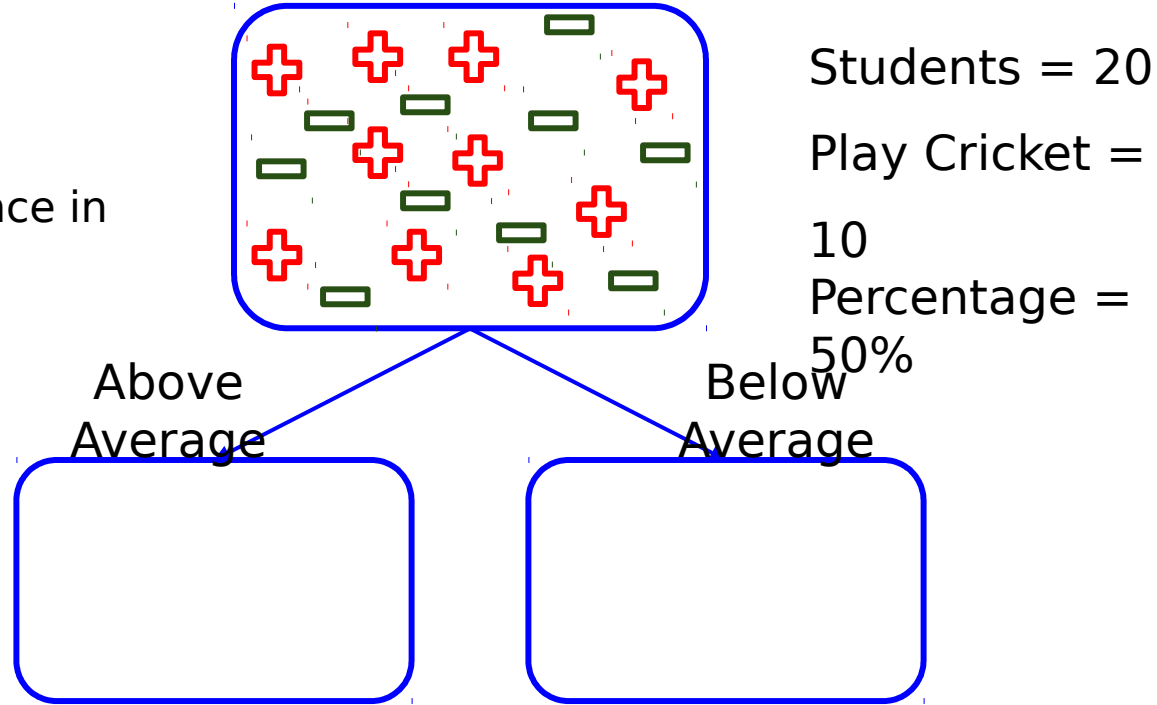
Play Cricket =

10

Percentage =  
50%

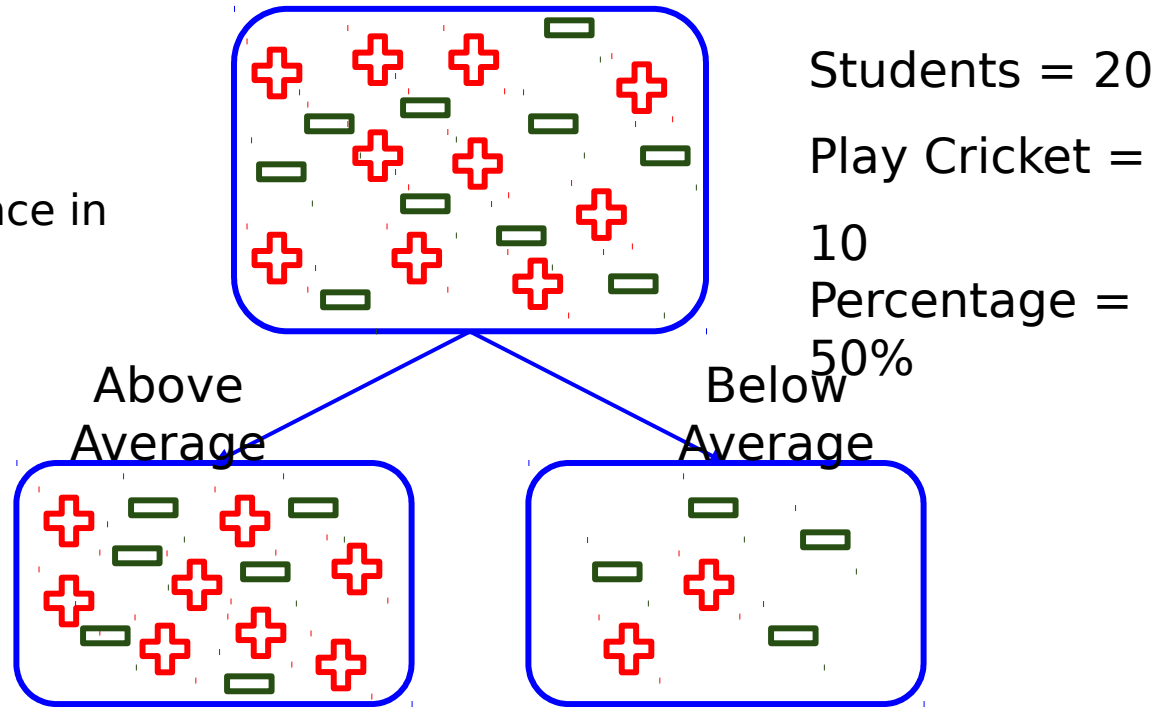
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- Split on Height
- Split on Performance in Class
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- Split on Height
- Split on Performance in Class
- Split on Class





# What is Decision Tree?

- Split on Height
- Split on Performance in Class
- Split on Class

Students = 20

Play Cricket =

10

Percentage =

50%

Above  
Average

Below  
Average

Students = 14

Play Cricket = 8

Percentage = 57.14%

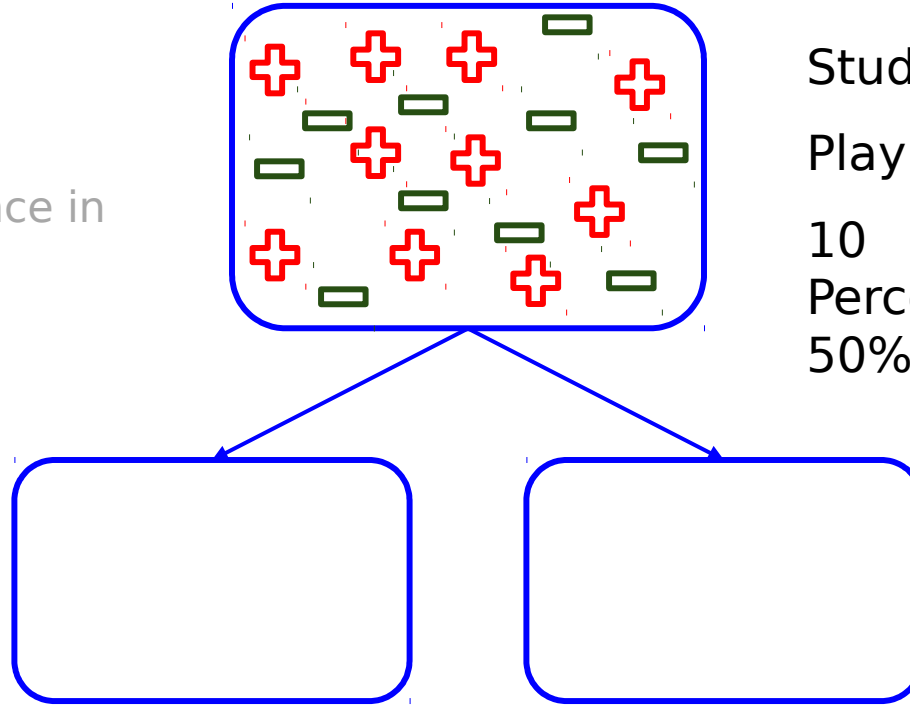
Students = 6

Play Cricket = 2

Percentage = 33.33%

# What is Decision Tree?

- Split on Height
- Split on Performance in Class
- Split on Class



Students = 20

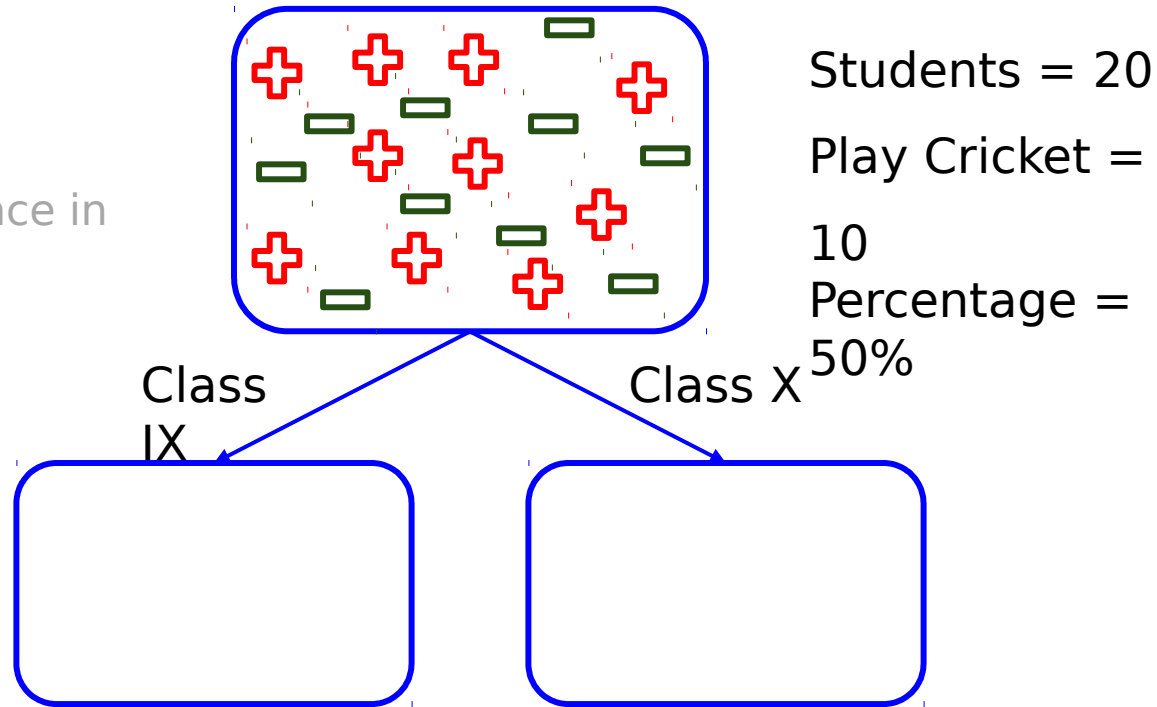
Play Cricket =

10

Percentage =  
50%

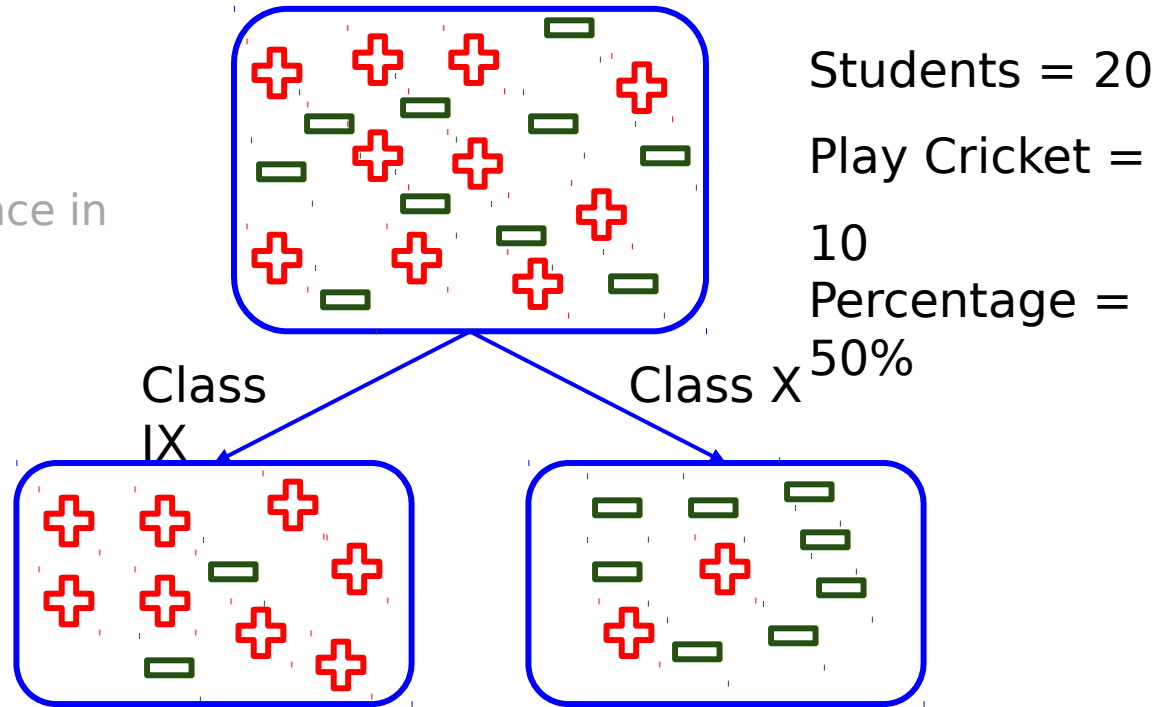
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- Split on Height
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- Split on Class



# What is Decision Tree?

- Split on Height
- Split on Performance in Class
- Split on Class



# What is Decision Tree?

- Split on Height
- Split on Performance in Class
- Split on Class

Students = 20

Play Cricket =

10

Percentage = 50%

Class IX

Class X

Students = 10

Play Cricket = 8

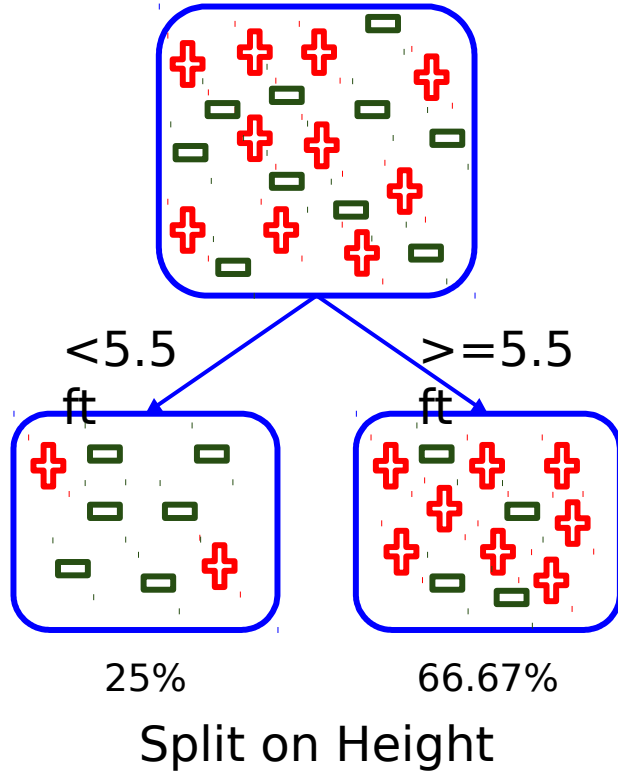
Percentage = 80%

Students = 10

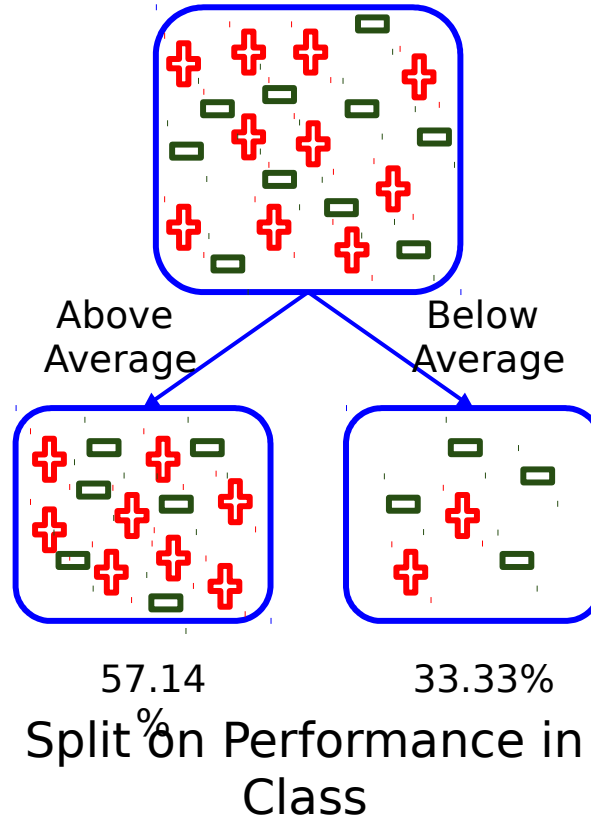
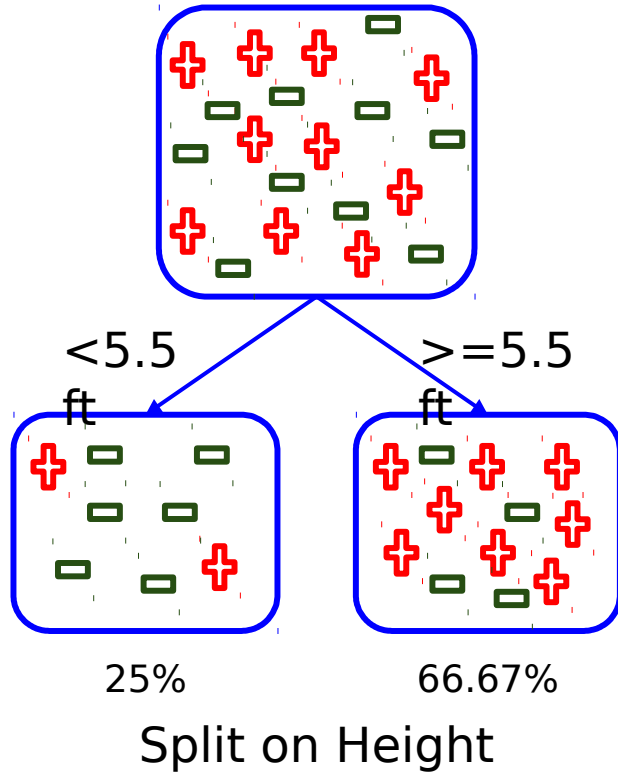
Play Cricket = 2

Percentage = 20%

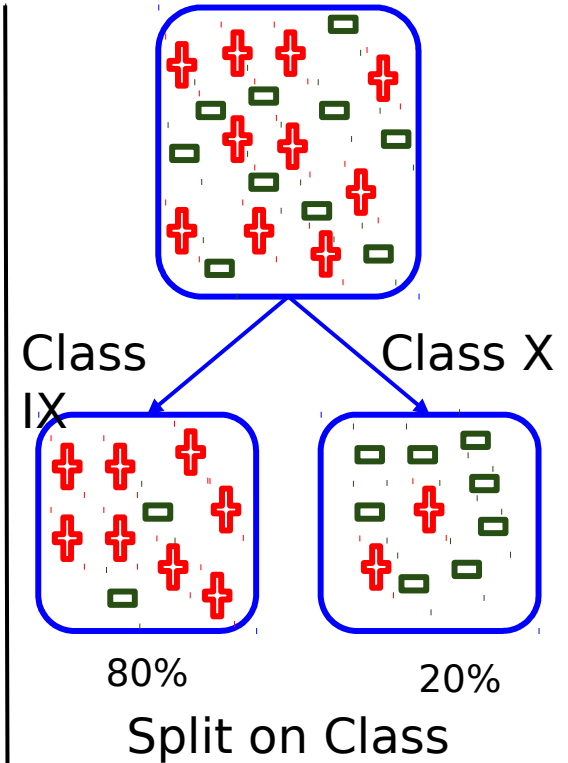
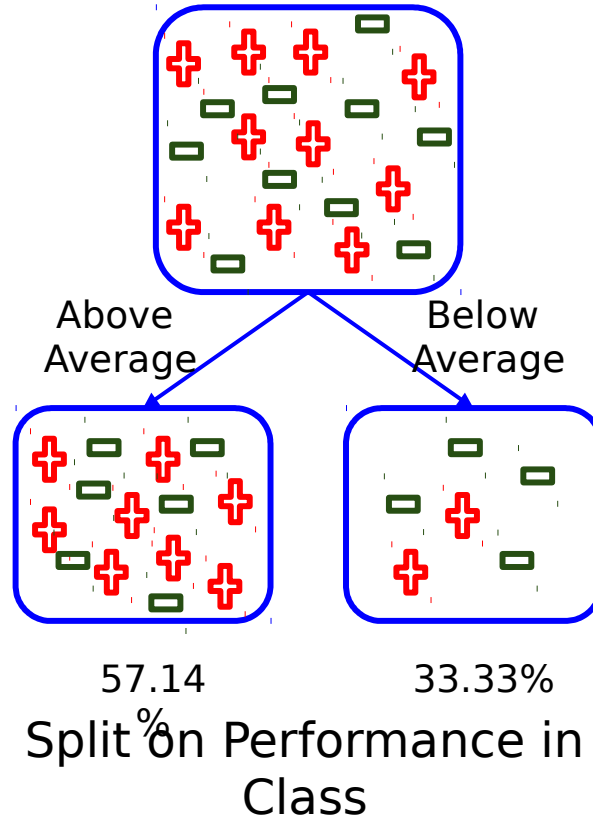
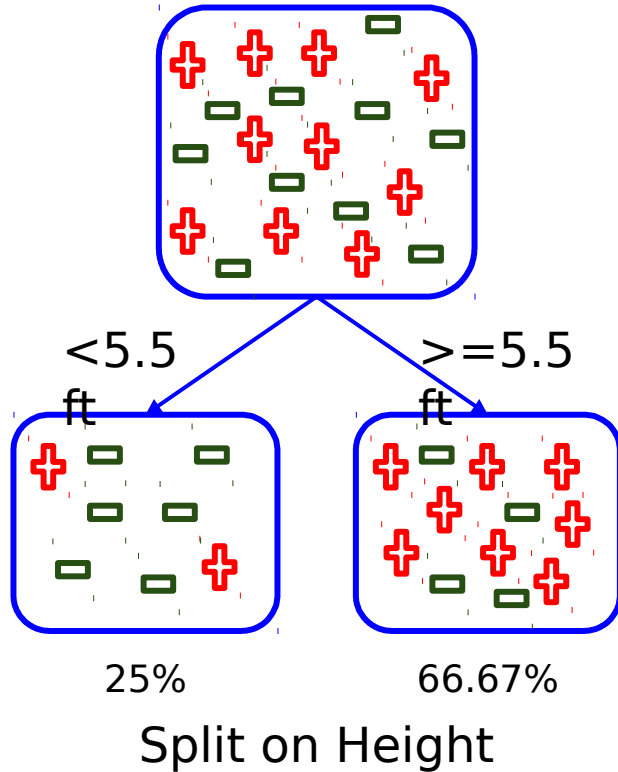
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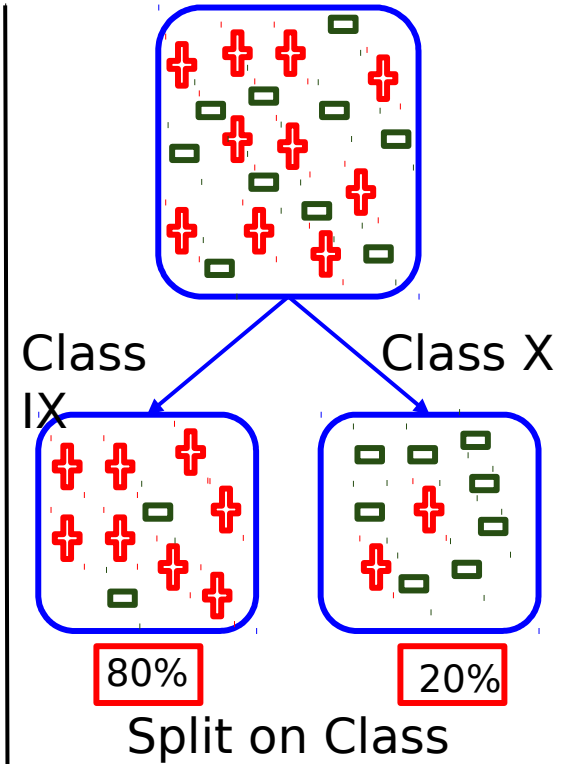
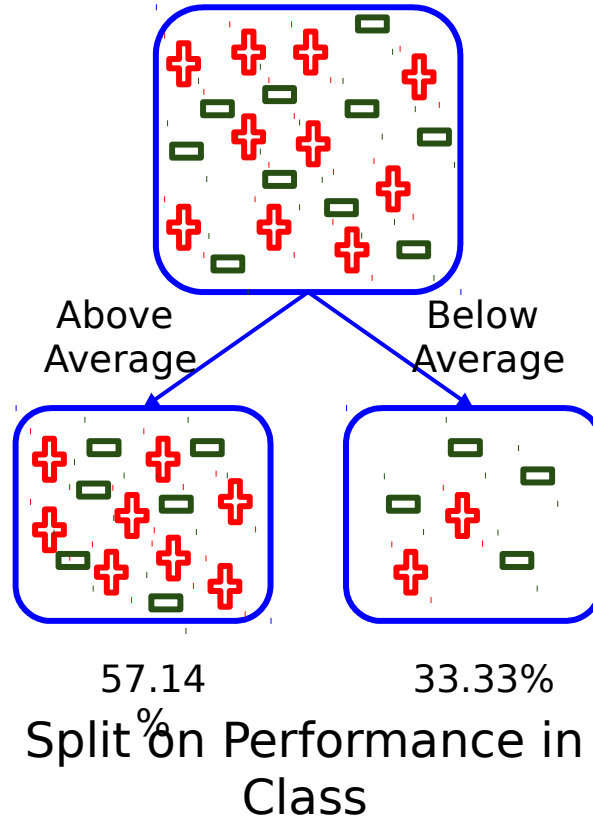
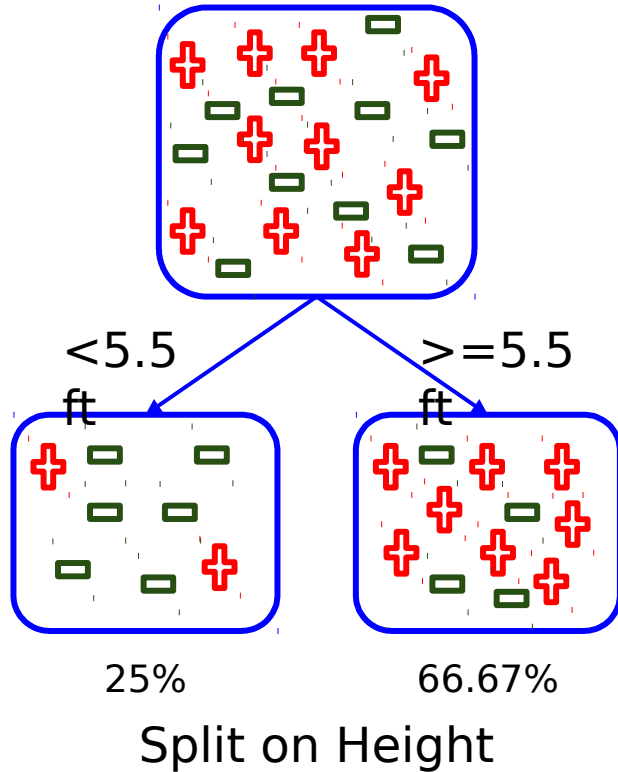


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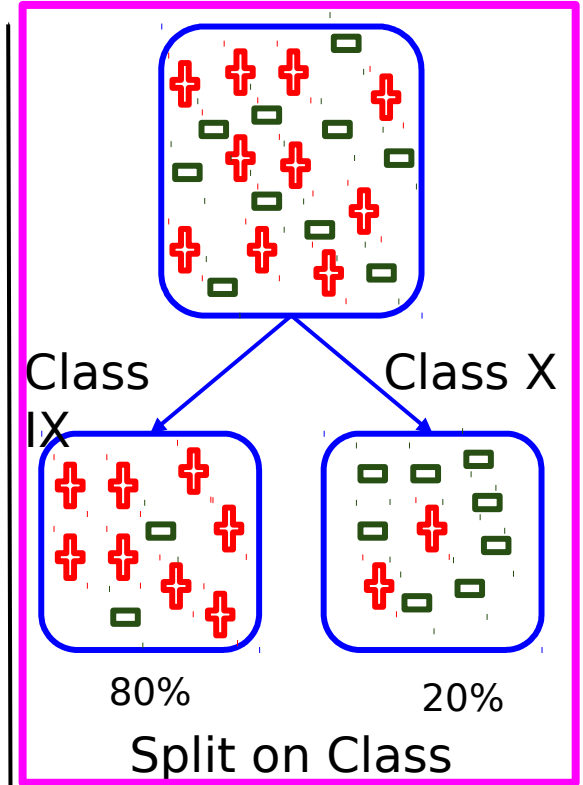
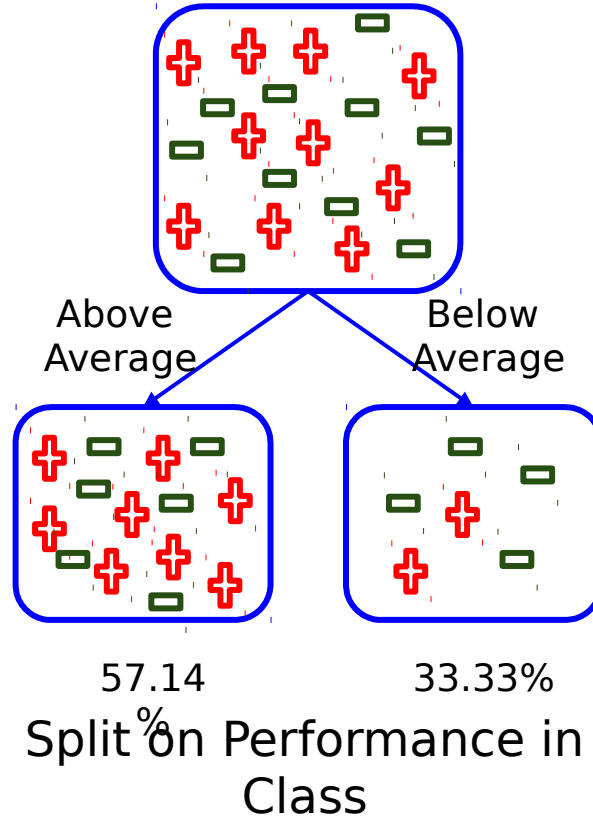
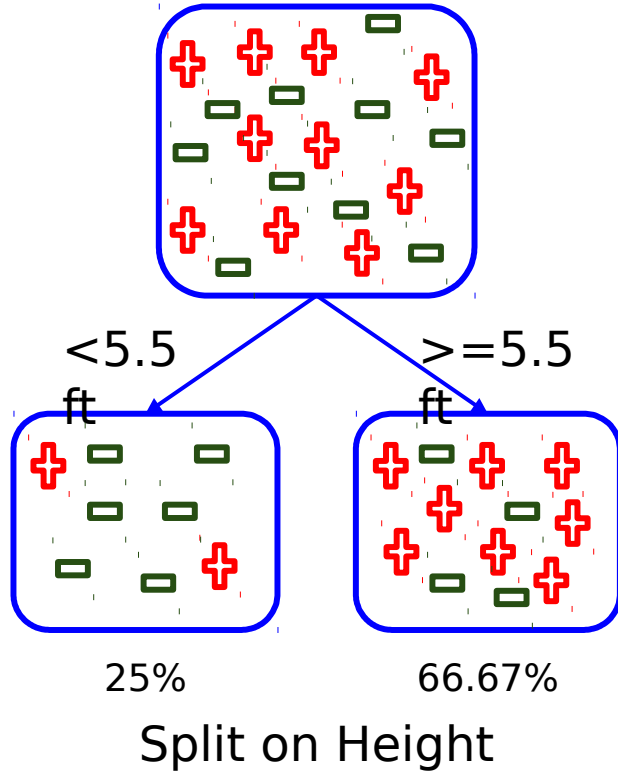




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Thank  
You!