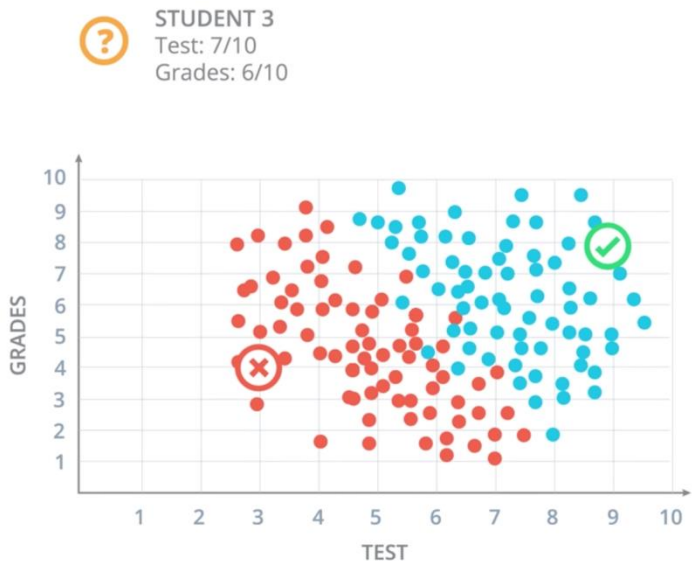
Classification Problems

We'll start by defining what we mean by classification problems, and applying it to a simple example.



QUIZ

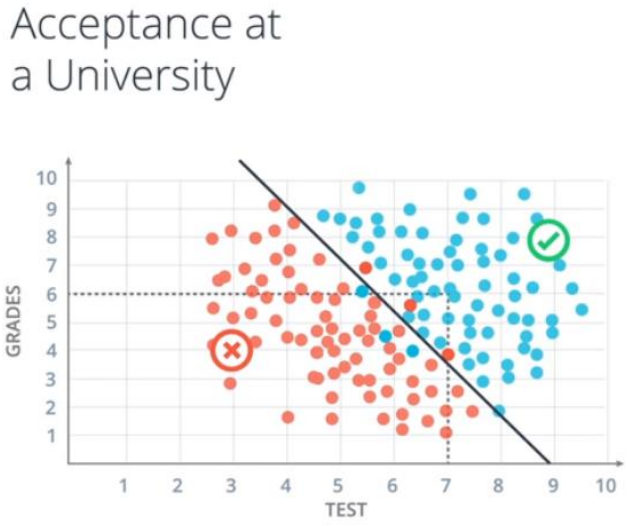
Does the student get Accepted?

- Yes
- No

Quiz Question

Does the student with Test 7/10 and Grades 6/10 get accepted?

- Yes



QUIZ

Does the student get Accepted?

- Yes
- No

Well, it seems that this data can be nicely separated by a line which is this line over here, and it seems that most students over the line get accepted and most students under the line get rejected.

So, this line is going to be our model. The model makes a couple of mistakes since there are

a few blue points that are under the line and a few red points over the line. But we're not going to care about those. I will say that it's safe to predict that if a point is over the line the student gets accepted and if it's under the line then the student gets rejected.

So, based on this model we'll look at the new student that we see that they are over here at the point (7,6) which is above the line. So we can assume with some confidence that the student gets accepted.