Week 13

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**1. Identify customers that won’t repay the bill**

The power company must have previous data on customers who paid their bills eventually and who didn’t pay and got their power shut off. Those data can be used to train the model.

**GIVEN** {Income, Credit score, Job status, Previous payment history on utility bills, Previous payment history on credit card bills}

**USE** {Logistic Regression Model}

**TO** {get the probability whether the customer will pay the bill eventually: **P**}

I can set the threshold to 0.5. If the probability obtained by logistic regression model is above 0.5, the power company should shut off the power of that customer.

2. Estimate the cost that if the power won’t be shut off, how much it will cost the company for an extra month.

**GIVEN** {Previous power consumption, season of the year, number of members in the household}

**USE** {ARIMA}

**TO** {predict the cost of an extra month if the power won’t be shut off- **cost**}

We can obtain a value **T** which is **P \* cost**. It combine the probability of the customer won’t pay and how much it will cost the company if the power won’t be shut off. It represents the potential overall cost for the power company. Because if