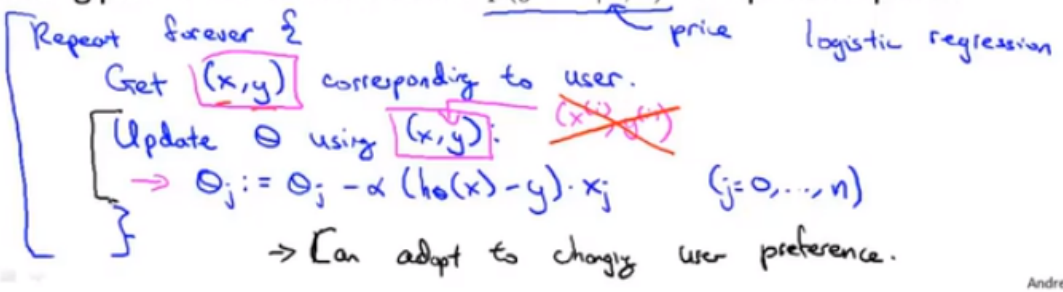
Online learning

Shipping service website where user comes, specifies origin and destination, you offer to ship their package for some asking price, and users sometimes choose to use your shipping service ($y = 1$), sometimes not ($y = 0$).

Features x capture properties of user, of origin/destination and asking price. We want to learn $p(y = 1|x; \theta)$ to optimize price.



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当一个网站有用户陆续登陆，被提供了价格x，并作出了y的决定时，我们可以根据(x,y)特征，以参数sita，计算出y=1的概率p，可以用这种在线学习机制，给出合适的价格x来使用户选择服务的概率最大化。

其他例子：

Other online learning example:

Product search (learning to search)

User searches for "Android phone 1080p camera"

Have 100 phones in store. Will return 10 results.

→ x = features of phone, how many words in user query match name of phone, how many words in query match description of phone, etc.

→ $y = 1$ if user clicks on link. $y = 0$ otherwise. (x, y)

→ Learn $p(y = 1|x; \theta)$. predicted CTR

→ Use to show user the 10 phones they're most likely to click on.

Other examples: Choosing special offers to show user; customized selection of news articles; product recommendation; ...

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