## **Conditional Probability & Bayes Rule Quiz**

```
In [1]: # load dataset
         import pandas as pd
        df = pd.read csv('cancer test data.csv')
        df.head()
Out[1]:
           patient_id test_result has_cancer
              79452
                      Negative
                                  False
              81667
                      Positive
                                  True
         2
              76297
                                  False
                      Negative
              36593
                      Negative
                                  False
              53717
                      Negative
                                  False
In [2]: # What proportion of patients who tested positive has cancer?
        df.query('test result == "Positive"')['has cancer'].mean()
Out[2]: 0.34282178217821785
In [3]: # What proportion of patients who tested positive doesn't have canc
        1 - df.query('test_result == "Positive"')['has_cancer'].mean()
Out[3]: 0.65717821782178221
In [4]: # What proportion of patients who tested negative has cancer?
        df.query('test result == "Negative"')['has cancer'].mean()
Out[4]: 0.013770180436847104
In [5]: # What proportion of patients who tested negative doesn't have canc
         1 - df.query('test_result == "Negative"')['has_cancer'].mean()
Out[5]: 0.98622981956315292
In [ ]:
```