Solution Functions

```
XYList = List[Tuple[float, float]]
def sumx2(data : XYList) -> float:
    return sum(item[0]**2 for item in data)

def sumy2(data : XYList) -> float:
    return sum(item[1]**2 for item in data)

def sumxy(data : XYList) -> float:
    return sum(item[0]**item[1] for item in data)

def count(data : XYList) -> int:
    return sum(1 for item in data)
```

Correlation Solution

$$r_{xy} = \frac{n\sum x_i y_i - \sum x_i \sum y_i}{\sqrt{n\sum x_i^2 - \left(\sum x_i\right)^2}\sqrt{n\sum y_i^2 - \left(\sum y_i\right)^2}}$$

```
def corr(data : XYList) -> float:
    n = count(data)
    num = n*sumxy(data) - sumx(data)*sumy(data)
    den = (math.sqrt(n*sumx2(data)-sumx(data)**2)
        * math.sqrt(n*sumy2(data)-sumy(data)**2))
    return num/den
```