## **Expectation**

What is the expectation of a distribution

1. Let us consider the random variable X that maps to the winning team amongst the 4 teams: A, B, C, D
2. P(X = x) represents the probability of team x winning where
3. Consider G(X=x), the gain associated with each of the teams if they win, where
4. Now, the expectation E(x) is given by
5. Consider the following data

|  |  |  |
| --- | --- | --- |
| X | P(X = x) | G(X = x) |
| A | 0.4 | 10000 |
| B | 0.2 | 2000 |
| C | 0.1 | -8000 |
| D | 0.3 | 5000 |

1. Therefore, E(X) = = 5100