**Question 1C**

Regret is used as a measure of how well an agent performs and is calculated as the difference between the average of the optimal action and the taken action.

The equation for regret is:

**Where:**

is the regret

is the number of times an action is taken

**expected reward for optimal action**

**expected reward for taken action**

**It is not always possible to use regret as a measure of performance as it relies on knowing the optimal action and the associated reward value which may not be available for all problems.**