Question 1

Purpose: to think about data for Linear Regression

⇒ For the easydata.txt data the weights are $2.4e^{-5}$ and 0.000165 to fit the linear regression. And the equation of the linear function will be $2x+1$. For example, the easydata.txt for the 1 3 and 2 5 to get the linear function will be $(2*1+1)=3$ and $(2*2+1)=5$ and so on. And the weights that would fit the linear regression would be $2.4e^{-5}$ and 0.000165. and the equation for the data would be $y=2x+1$.

⇒ For the gamesite.txt, After looking at the gamesite.txt for the input data number of unique user login and the output feature is the number of actual games played on the site during that day. To know whether the linear regression would work may be hard to predict, fit the data with linear regression because the output has a small range. In linear regression, the model tries to learn relationship between the input value and output value by fitting a straight line to the data points. So, if the output range is small, it might indicate that the relationship between the input & output is weak or even nonexistent. In such cases, fitting a line may not capture the underlying pattern in the data leading to poor performance. So therefore, it would be difficult to fit the data for the linear regression due to the output having a pretty little/small range.