**Problem 1)**

1. We can say that AI robot adoption has a positive association with spending. This is because the p-value of the coefficient of the independent variable is less than 0.01, which implies significance as the odds that the positive association is false is 1%. Moreover, it’s a positive association as the AI Exposure time of 5.563 is more than 0 so it’s a positive relationship.

2. It is possible to encounter potential endogeneity issues such as omitted independent variables and measurement error. There might be observed or unobserved independent variables that can be included in the model. The spending per visit of the customer might be influenced by factors such as time or occasion during the visit or promotions. The time of AI robot exposure by customer might also be correlated to the appearance of the AI robot or the usability of its user interface. It is also possible that measurement error such as coding or reporting error to arise though it is highly unlikely if the time of AI robot exposure is generated automatically.

**Problem 2)**

H0: the null hypothesis states that there is no association between height and weight where the correlation coefficient r = 0

H1: the alternative hypothesis states that there is an association between height and weight where the correlation coefficient r ≠ 0

By performing a linear regression test using the OLS model, we find that the r-value or sample correlation coefficient is 0.20089209823905532, which shows a positive association between height and weight. However, the association is weak as its less than 0.80. Moreover, the p-value of the regression is 0.02847153625689316, which is less than α = 0.05, meaning that we can reject the null hypothesis and accept the alternative hypothesis, as the data suggests that there is sufficient evidence to conclude that there is a positive association and linear relationship between weight and height because the correlation coefficient is more than 0.

**Problem 3)**

H0: There is no association between batting average and winning r = 0

H1: There is an association between batting average and winning r ≠ 0

Where “r” is the correlation coefficient or B1 of the regression linear equation.

We reject the null hypothesis if the p-value is less than α = 0.05.

Despite a positive correlation coefficient of 94.23269128167318 and a low p-value of 0.02528424569704611 which is less than α = 0.05, meaning that I can reject the null hypothesis and accept the alternative hypothesis that there is an association, ultimately, I would not plan to make a contract with a player with a high batting average. This is because the adjusted R-squared value is equal to 0.035, which suggests that 3.5% of the variation of wins is affected by the batting average, meaning that this OLS model does not account for many confounding factors that affect the number of wins, such as age and height and so on. Thus, there’s not enough reliable evidence to claim that a high batting average is closely related to a higher amount of wins, which means I will not plan to make a contract.