In [ ]:
```
"""Q1. Explain the difference between simple linear regression and multiple li
example of each.
Ans-simple Linear Regression we have only one independent variable
    Multiple Linear Regression we have more then one independent variable



Que 2. Discuss the assumptions of linear regression. How can you check whether
these assumptions hold in a given dataset?
Ans 2 we have a dependent and independent value in the continous form so on
that we assume it is linear Regression assumption and hence we can check this
is hold in the data set or not


Que 3 How do you interpret the slope and intercept in a linear regression mode
a real-world scenario.
Ans 3-
A linear regression line has an equation of the form Y = a + bX, where X is th
explanatory variable and Y is the dependent variable. The slope of the line is
b, and a is the intercept (the value of y when x = 0).


Que 4-Explain the concept of gradient descent. How is it used in machine learn
Ans 4-Gradient descent is an optimization algorithm which is commonly-used to
machine learning models and neural networks. Training data helps these models
learn over time, and the cost function within gradient descent specifically
acts as a barometer, gauging its accuracy with each iteration of parameter
updates


Que 5. Describe the multiple linear regression model. How does it differ from
simple linear regression?
Ans 5.in multiple linear Regression model we have more then one independent
variabel and in simple linear Regression we have only one independent variable


Que 6 Explain the concept of multicollinearity in multiple linear regression.
How can you detect and address this issue?
Ans 6-Multicollinearity exists whenever an independent variable is highly
correlated with one or more of the other independent variables in a multiple
regression equation. Multicollinearity is a problem because it will make the
statistical inferences less reliable


Que 7-Describe the polynomial regression model. How is it different from linea
regression?
Ans 7 in the polynomial regression model we have dependent and independent var
non linear type.


Que 8-What are the advantages and disadvantages of polynomial regression compa
to linear regression? In what situations would you prefer to use polynomial
regression?
Ans 8-Advantage of polynomial Regression we can use it on non linear type of
data disadvantage of polynomial Regression we can not used when we have data i
linear form generally i used the polynomial Regression if we have data in the
non linear form
```