**Simple Linear Regression**

1. **Calories Consumed:**

Cor = 0.946; R^2 = 0.8968; Cor(fit) = 0.9469

Applying Transformations:

* Sqrt:

R^2 = 0.8567; Cor(fit) = 0.9972

* Log:

R^2 = 0.8077; Cor(fit) = 0.9891708

The value of R^2 is greater than 0.85 without applying any transformations. And as we try to transform the data the R^2 value is starting reduce.

1. **Delivery Time:**

Cor = 0.8359; R^2 = 0.6823; Cor(fit) = 0.82599

Applying Transformations:

* Sqrt:

R^2 = 0.704; Cor(fit) = 0.8390

* Log:

R^2 = 0.7109; Cor(fit) = 0.84317

* Exp:

R^2 = 0.1192; Cor(fit) = 0.34530

* Square:

R^2 = 0.6823; Cor(fit) = 0.82599

The value of R^2 is less than 0.85 before applying any transformations. And as we apply the transformations, the value of R^2 is better when we use the log transformation compared to the other transformations.

1. **Emp\_Data:**

Cor = -0.91172; R^2 = 0.8312; Cor(fit) = 0.91172

Applying Transformations:

* Sqrt:

R^2 = 0.853; Cor(fit) = 0.9235

* Log:

R^2 = 0.8735; Cor(fit) = 0.93463

* Exp:

R^2 = 0.172; Cor(fit) = 0.4146

* Square:

R^2 = 0.8312; Cor(fit) = 0.91172

The value of R^2 is less than 0.85 before applying any transformations. And as we apply the transformations, the value of R^2 is better when we use the log transformation compared to the other transformations.

1. **Salary Data:**

Cor = 0.9782; R^2 = 0.957; Cor(fit) = 0.9782

Applying Transformations:

* Sqrt:

R^2 = 0.9498; Cor(fit) = 0.974595

* Log:

R^2 = 0.932; Cor(fit) = 0.96538

The value of R^2 is greater than 0.85 before applying any transformations. And as we apply the transformations, the value of R^2 is better when we use the square transformation compared to the other transformations.