Simple Linear Regression (Module - 6)

Do the necessary transformations for input variables for getting better R^2 value for the model prepared. Build the model and predict for the output variables.

1.) Calories_consumed -> predict weight gained using calories consumed

	Weight.gained..grams.	Calories.Consumed
1	108	1500
2	200	2300
3	900	3400
4	200	2200
5	300	2500
6	110	1600
7	128	1400
8	62	1900
9	600	2800
10	1100	3900
11	100	1670

2) Delivery_time -> Predict delivery time using sorting time

	Delivery.Time	Sorting.Time
1	21.00	10
2	13.50	4
3	19.75	6
4	24.00	9
5	29.00	10
6	15.35	6
7	19.00	7
8	9.50	3
9	17.90	10
10	18.75	9

3) Emp_data -> Build a prediction model for Churn_out_rate

	Salary_hike	Churn_out_rate
1	1580	92
2	1600	85
3	1610	80
4	1640	75
5	1660	72
6	1690	70
7	1706	68
8	1730	65
9	1800	62
10	1870	60

4) Salary_hike -> Build a prediction model for Salary_hike

	YearsExperience	Salary
1	1.1	39343
2	1.3	46205
3	1.5	37731
4	2.0	43525
5	2.2	39891
6	2.9	56642
7	3.0	60150
8	3.2	54445
9	3.2	64445
10	3.7	57189
11	3.9	63218

Hints:

1. Business Problem

    1.1. Objective

    1.2. Constraints (if any)

2. Data Pre-processing

    2.1 Data cleaning, Feature Engineering, EDA etc.

3. Model Building

    3.1 Partition the dataset

    3.2 Model(s) - Reasons to choose any algorithm

    3.3 Model(s) Improvement steps

    3.4 Model Evaluation

    3.5 Python and R codes

4. Deployment

    4.1 Deploy solutions using R shiny and Python Flask.

5. Result Share the benefits/impact of the solution - how or in what way the business (client)

gets benefit from the solution provided.

Note:

1. For each assignment the solution should be submitted in the format

2. Research and Perform all possible steps for improving the model(s) accuracy.

    Ex: Transformations, Feature Engineering, Hyper Parameter tuning, Outlier treatment, etc.

3. All the codes (executable programs) are running without errors

4. Documentation of the module should be submitted along with R & Python codes, elaborating

on every step mentioned here.