

P15

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	
1	sex	smoker	day	time	size	total_bill	tip																	
2	Female	0	No	0 Sun	0 0 0	Dinner	1	2	16.99	1.01														
3	Male	1	No	0 Sun	0 0 0	Dinner	1	3	10.34	1.66														
4	Male	1	No	0 Sun	0 0 0	Dinner	1	3	21.01	3.5														
5	Male	1	No	0 Sun	0 0 0	Dinner	1	2	23.68	3.31														
6	Female	0	No	0 Sun	0 0 0	Dinner	1	4	24.59	3.61														
7	Male	1	No	0 Sun	0 0 0	Dinner	1	4	25.29	4.71														
8	Male	1	No	0 Sun	0 0 0	Dinner	1	2	8.77	2														
9	Male	1	No	0 Sun	0 0 0	Dinner	1	4	26.88	3.12														
10	Male	1	No	0 Sun	0 0 0	Dinner	1	2	15.04	1.96														
11	Male	1	No	0 Sun	0 0 0	Dinner	1	2	14.78	3.23														
12	Male	1	No	0 Sun	0 0 0	Dinner	1	2	10.27	1.71														
13	Female	0	No	0 Sun	0 0 0	Dinner	1	4	35.26	5														
14	Male	1	No	0 Sun	0 0 0	Dinner	1	2	15.42	1.57														
15	Male	1	No	0 Sun	0 0 0	Dinner	1	4	18.43	3														
16	Female	0	No	0 Sun	0 0 0	Dinner	1	2	14.83	3.02														
17	Male	1	No	0 Sun	0 0 0	Dinner	1	2	21.58	3.92														
18	Female	0	No	0 Sun	0 0 0	Dinner	1	3	10.33	1.67														
19	Male	1	No	0 Sun	0 0 0	Dinner	1	3	16.29	3.71														
20	Female	0	No	0 Sun	0 0 0	Dinner	1	3	16.97	3.5														
21	Male	1	No	0 Sat	0 0 1	Dinner	1	3	20.65	3.35														
22	Male	1	No	0 Sat	0 0 1	Dinner	1	2	17.92	4.08														
23	Female	0	No	0 Sat	0 0 1	Dinner	1	2	20.29	2.75														
24	Female	0	No	0 Sat	0 0 1	Dinner	1	2	15.77	2.23														
25	Male	1	No	0 Sat	0 0 1	Dinner	1	4	39.42	7.58														
26	Male	1	No	0 Sat	0 0 1	Dinner	1	2	19.82	3.18														
27	Male	1	No	0 Sat	0 0 1	Dinner	1	4	17.81	2.34														
28	Male	1	No	0 Sat	0 0 1	Dinner	1	3	12.27	2														

L239

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	sex	smoker	Thur	Fri	Sat	time	size	total_bill	tip				
2	0	0	0	0	0	1	2	16.99	1.01				
3	1	0	0	0	0	1	3	10.34	1.66				
4	1	0	0	0	0	1	3	21.01	3.5				
5	1	0	0	0	0	1	2	23.68	3.31				
6	0	0	0	0	0	1	4	24.59	3.61				
7	1	0	0	0	0	1	4	25.29	4.71				
8	1	0	0	0	0	1	2	8.77	2				
9	1	0	0	0	0	1	4	26.88	3.12				
10	1	0	0	0	0	1	2	15.04	1.96				
11	1	0	0	0	0	1	2	14.78	3.23				
12	1	0	0	0	0	1	2	10.27	1.71				
13	0	0	0	0	0	1	4	35.26	5				
14	1	0	0	0	0	1	2	15.42	1.57				
15	1	0	0	0	0	1	4	18.43	3				
16	0	0	0	0	0	1	2	14.83	3.02				
17	1	0	0	0	0	1	2	21.58	3.92				
18	0	0	0	0	0	1	3	10.33	1.67				
19	1	0	0	0	0	1	3	16.29	3.71				
20	0	0	0	0	0	1	3	16.97	3.5				
21	1	0	0	0	1	1	3	20.65	3.35				
22	1	0	0	0	1	1	2	17.92	4.08				
23	0	0	0	0	1	1	2	20.29	2.75				
24	0	0	0	0	1	1	2	15.77	2.23				
25	1	0	0	0	1	1	4	39.42	7.58				
26	1	0	0	0	1	1	2	19.82	3.18				
27	1	0	0	0	1	1	4	17.81	2.34				
28	1	0	0	0	1	1	3	12.27	2				

< > tips num_data MLR MLR2 Actual vs predicted_tips,rmse +

Clipboard										
Font										
Alignment										
A	B	C	D	E	F	G	H	I	J	K
1										L
2										
3		SUMMARY OUTPUT								
4										
5		Regression Statistics								
6		Multiple R	0.68562243							
7		R Square	0.47007812							
8		Adjusted R Square	0.45203823							
9		Standard Error	1.02423042							
10		Observations	244							
11										
12		ANOVA								
13		df	ss	MS	F	Significance F				
14		Regression	8	218.6862081	27.335776	26.0576992	1.1961E-28			
15		Residual	235	246.5262689	1.04904795					
16		Total	243	465.212477						
17										
18		Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%	
19		Intercept	0.84646522	0.510990501	1.65651851	0.0989514	-0.1602423	1.85317275	-0.1602423	1.85317275
20		sex	-0.03244094	0.141612158	-0.22908302	0.81900364	-0.31143248	0.2465506	-0.31143248	0.2465506
21		smoker	-0.08640832	0.146587073	-0.58946753	0.55611396	-0.37520099	0.20238435	-0.37520099	0.20238435
22		Thur	-0.13677854	0.471696302	-0.28997161	0.77209365	-1.06607217	0.79251509	-1.06607217	0.79251509
23		Fri	0.02548066	0.321297781	0.07930543	0.93685717	-0.60751133	0.65847265	-0.60751133	0.65847265
24		Sat	-0.09597772	0.165881584	-0.57859175	0.56341877	-0.4227827	0.23082726	-0.4227827	0.23082726
25		time	-0.0681286	0.444616858	-0.15322991	0.87834846	-0.94407275	0.80781554	-0.94407275	0.80781554
26		size	0.175992	0.089527743	1.96578175	0.05050134	-0.0003875	0.35237151	-0.0003875	0.35237151
27		total_bill	0.09448701	0.009601399	9.84096224	2.3425E-19	0.07557119	0.11340282	0.07557119	0.11340282
28		slopes								
29										
30					p value less than 5%--> statistical significant relationship. eg: p value= 0.819003636 than there is 81% chance that it can be explained by randomness. Exclude columns with p values greater than 0.05					
31										
32										
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< > tips | num_data | **MLR** | MLR2 | Actual vs predicted_tips,rmse | +

L16

	A	B	C	D	E	F	G	H	I	J	K	L	M
1			SUMMARY OUTPUT										
2													
3													
4			Regression Statistics										
5			Multiple R	0.684009729									
6			R Square	0.467869309									
7			Adjusted R Square	0.463453286									
8			Standard Error	1.013505967									
9			Observations	244									
10													
11			ANOVA										
12				df	SS	MS	F	Significance F					
13			Regression	2	217.6586401	108.82932	105.9481301	9.66509E-34					
14			Residual	241	247.553837	1.027194344							
15			Total	243	465.212477								
16													
17				Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%		
18			Intercept	0.668944741	0.193609331	3.455126549	0.000649806	0.287562197	1.050327285	0.287562197	1.050327285		
19			size	0.192597794	0.085314557	2.25750214	0.024872448	0.024540385	0.360655204	0.024540385	0.360655204		
20			total_bill	0.092713337	0.009114682	10.17186688	1.88092E-20	0.074758723	0.110667951	0.074758723	0.110667951		
21													
22													
23				Tip Predictor									
24				Enter Size	10								
25				Enter Total Bill	22								
26				Predicted Tip	4.634616095								
27													
28													
29													
30													
31													
32													
33													
34													
35													

Y=Constant +B1*(X1)+B2*(X2)+...+Bn*Xn
 Constant = Intercept
 X=Coefficients
 B=Actual independent variable values

< > tips num_data MLR MLR2 Actual vs predicted_tips,rmse +

Ready Accessibility: Good to go

I14

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1	size	total_bill	tip	Predicted Tips	ERROR	Error Square											
2	2	16.99	1.01	2.63	-1.62	2.62											
3	3	10.34	1.66	2.21	-0.55	0.30											
4	3	21.01	3.5	3.19	0.31	0.09											
5	2	23.68	3.31	3.25	0.06	0.00											
6	4	24.59	3.61	3.72	-0.11	0.01											
7	4	25.29	4.71	3.78	0.93	0.86											
8	2	8.77	2	1.87	0.13	0.02											
9	4	26.88	3.12	3.93	-0.81	0.66											
10	2	15.04	1.96	2.45	-0.49	0.24											
11	2	14.78	3.23	2.42	0.81	0.65											
12	2	10.27	1.71	2.01	-0.30	0.09											
13	4	35.26	5	4.71	0.29	0.09											
14	2	15.42	1.57	2.48	-0.91	0.83											
15	4	18.43	3	3.15	-0.15	0.02											
16	2	14.83	3.02	2.43	0.59	0.35											
17	2	21.58	3.92	3.05	0.87	0.75											
18	3	10.33	1.67	2.20	-0.53	0.29											
19	3	16.29	3.71	2.76	0.95	0.91											
20	3	16.97	3.5	2.82	0.68	0.46											
21	3	20.65	3.35	3.16	0.19	0.04											
22	2	17.92	4.08	2.72	1.36	1.86											
23	2	20.29	2.75	2.94	-0.19	0.03											
24	2	15.77	2.23	2.52	-0.29	0.08											
25	4	39.42	7.58	5.09	2.49	6.18											
26	2	19.82	3.18	2.89	0.29	0.08											
27	4	17.81	2.34	3.09	-0.75	0.56											
28	2	12.37	2	2.29	-0.29	0.00											

Error= Observation-Forcast (actual tip-predicted tip)
 RMSE=Square root of Mean of Square of errors
 RMSE evaluates the quality of predictions.

< > tips num_data MLR MLR2 Actual vs predicted_tips,rmse +