2-Using the Durbin-Watson statistical test as follows:

$$D = \frac{\sum_{i=2}^{n}(e_i - e_{i-1})^2}{\sum_{i=1}^{n} e_i^2}$$

We find the values of e_i and e_i^2, i.e. the errors, as follows:

الشهر	e_i	e_i^2	$(e_i - e_{i-1})^2$	الشهر	e_i	e_i^2	$(e_i - e_{i-1})^2$
1	0.2812	0.0791		11	-0.471	0.2218	0.4606
2	0.3654	0.1335	0.00708	12	-0.659	0.4348	0.0354
3	0.4670	0.2181	0.01032	13	-0.4352	0.1894	0.0502
4	-0.2662	0.0709	0.5375	14	0.4432	0.1964	0.7715
5	-0.2159	0.0466	0.00863	15	-0.0197	0.0004	0.214
6	-0.1791	0.0321	0.00135	16	0.8119	0.6592	0.6915
7	-0.3920	0.1537	0.453	17	0.4306	0.1854	0.1453
8	-0.7307	0.5339	0.1147	18	0.179	0.32	0.0633
9	-0.0836	0.007	0.4187	19	0.0003	0.0001	0.0319
10	0.2077	0.0431	0.0848	20	0.2661	0.0708	0.0706
				المجموع		3.3082	3.763

By applying the Durbin-Watson formula, we get:

$$D = \frac{\sum_{i=2}^{n}(e_i - e_{i-1})^2}{\sum_{i=1}^{n} e_i^2} = \frac{3.7634}{3.3082} = 1.14$$

From the Durbin-Watson tables, for a sample size of n=20 and a significance level of 0.05, we obtain the values of the minimum and maximum limits of Durbin-Watson as follows:

As:

$dl = 1.2\,, du = 1.41$

Thus, the null hypothesis is rejected, i.e. there is an autocorrelation between the errors.