Republic of the Philippines
MARIKINA POLYTECHNIC COLLEGE
Sta. Elena, Marikina City

Final Output
ENGINEERING DATA ANALYSIS
2nd Semester, A.Y. 2022 – 2023

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HYPOTHESIS

For Data 1

➢ There is no significant difference on post and pretest scores of the ECE students who uses the upgraded instructional material. *(t-test)*

* Hypothesis unknown"
  There is no significant difference on post and pretest scores of the ECE students who uses the upgraded instructional material

* Hypothesis alternative"
There are some significant similarities on post and pretest scores of the ECE students who uses the upgraded instructional material

We used **n= 75** for the passing grades need to meet

Student No.	Pretest Score	Posttest Score
1	80	95
2	87	90
3	84	86
4	86	87
5	88	92
6	85	90
7	85	94
8	89	90
9	90	86
10	83	87
11	81	95
12	83	87
13	80	95
14	80	93
15	89	88
16	85	95
17	81	87
18	80	93
19	82	86
20	84	94
21	82	92
22	84	94
23	82	95
24	87	87
25	85	86

t-Test: Two-Sample Assuming Unequal Variances

	80	95
Mean	84.25	90.375
Variance	8.978261	12.33152
Observations	24	24
Hypothesized Mean Difference	75	
df	45	
t Stat	-86.0936	
P(T<=t) one-tail	6.88E-52	
t Critical one-tail	1.679427	
P(T<=t) two-tail	1.38E-51	
t Critical two-tail	2.014103	

SUMMARY FOR DATA 1

We analyze the problem and given sample by our Professor in discord, after that we began to watch the video given by our professor, after a few minutes we began to communicate to each other how to answer this data, after that that we began to lunch the Ex-ell and download the data analysis, we used the two-sample assuming unequal variances , after a couple of seconds we got the answer , but before we lunch the Excel we first write it in paper and compute ourselves, even some are wrong we still got a few right answer.

HYPOTHESIS

For Data 2

➤ There is no significant difference on growth of the mongo (*Mangifera indica*) with 0%, 25% and 50% volume of Filipino cultural sounds. *(ANOVA)*

* Hypothesis unknown"
There is no significant difference on growth of the mongo (Mangifera indica) with 0%, 25% and 50% volume of Filipino cultural sounds

* Hypothesis alternative"
There are some significant similarities on growth of the mongo (*Mangifera indica*) with 0%, 25% and 50% volume of Filipino cultural sounds

Height (in INCHES)	Height (in INCHES)	Height (in INCHES)
10	9	10
9	8	10
9	6	10
6	10	12
9	8	10
8	8	9
6	9	9
7	7	9
10	9	10
10	6	12
9	6	12
7	9	12
5	7	11
9	6	9
10	10	10

Anova: Single Factor

SUMMARY

Groups	Count	Sum	Average	Variance
			8.14285714	2.74725274
10	14	114	3	7
			7.78571428	2.18131868
9	14	109	6	1
			10.3571428	1.47802197
10	14	145	6	8

ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Between	54.3333333		27.1666666		5.58333E-	3.23809
Groups	3	2	7	12.7212693	05	6
Within Groups	83.2857142 9	39	2.13553113 6			
	137.619047					
Total	6	41				

data 2

SUMMARY OF DATA 2

After we got the answer on data 1 we began to complete the data 2 , we analyze how to got the right Anova , We began to watch the video link given by our Professor, after a couple of minutes we began to lunch the Ex-el and try to use data analysis and began to click the range and choose the Anova-Single factor , second passes , we got the answer given by data analysis tool

HYPOTHESIS

For Data 3

> *What is the level of correlation coefficient of the night sleeping span of a person and the number of hours he/she is exposed to their personal computer. (Correlation)*

SUMMARY OF DATA 3

Me and my groupmate began to watch the last video link and slowly listen to our Professor lecturing how to and what are we going to do to have the right answer using the formula of correlation, After the video we began to write the given and the x,y,xy etc.. after that we used the formula

$$r = \frac{\sum (x_i - \bar{x})(y_i - \bar{y})}{\sqrt{\sum (x_i - \bar{x})^2 \sum (y_i - \bar{y})^2}}$$

after that we began to compute, and we got the right answer , final we began to try the correlation in data analysis tool and we got the same answer.

CORRELATION

The **CORREL** and **PEARSON** worksheet functions both calculate the correlation coefficient between two measurement variables when measurements on each variable are observed for each of N subjects. (Any missing observation for any subject causes that subject to be ignored in the analysis.) The Correlation analysis tool is particularly useful when there are more than two measurement variables for each of N subjects. It provides an output table, a correlation matrix, that shows the value of **CORREL** (or **PEARSON**) applied to each possible pair of measurement variables.

The correlation coefficient, like the covariance, is a measure of the extent to which two measurement variables "vary together." Unlike the covariance, the correlation coefficient is scaled so that its value is independent of the units in which the two measurement variables are expressed. (For example, if the two measurement variables are weight and height, the value of the correlation coefficient is unchanged if weight is converted from pounds to kilograms.) The value of any correlation coefficient must be between -1 and +1 inclusive.

https://support.microsoft.com/en-us/office/use-the-analysis-toolpak-to-perform-complex-data-analysis-6c67ccf0-f4a9-487c-8dec-bdb5a2cefab6?ns=excel&version=21&syslcid=1033&uilcid=1033&appver=zxl210&helpid=xladdin.chm1780&ui=en-us&rs=en-us&ad=us

n= 8

x	y		xy	x^2	y^2
Night Sleeping Span Time	No. of hrs exposed to personal computer				
10	4		40	100	16
10	1		10	100	1
6	4		24	36	16
9	2		18	81	4
7	4		28	49	16
6	3		18	36	9
8	6		48	64	36
4	4		16	16	16
10	4		40	100	16
5	1		5	25	1
4	3		12	16	9
4	2		8	16	4
9	8		72	81	64
7	6		42	49	36
7	4		28	49	16
4	6		24	16	36
10	1		10	100	1
10	6		60	100	36
4	7		28	16	49
4	6		24	16	36
5	4		20	25	16
9	6		54	81	36
5	5		25	25	25
7	3		21	49	9
8	1		8	64	1
5	1		5	25	1
9	1		9	81	1
7	8		56	49	64
5	5		25	25	25
8	2		16	64	4
10	5		50	100	25
9	2		18	81	4
4	4		16	16	16
7	1		7	49	1

4	1	4	16	1
9	1	9	81	1
7	2	14	49	4
8	3	24	64	9
4	6	24	16	36
6	3	18	36	9
8	4	32	64	16
9	5	45	81	25
5	5	25	25	25
10	2	20	100	4
4	1	4	16	1
10	6	60	100	36
6	5	30	36	25
9	2	18	81	4
8	4	32	64	16
4	6	24	16	36
347	186	1268	2645	894

	10	*4*
10	1	
4	-0.110679654	1

PHOTOS OF US DOING OUR FINAL OUTPUTS