MA 214 Hovework 5

- 11. 24.
 - a. Gooul been equiron:
 - Y = Bo + B. X + E
 - y: dependent minble (SET meng)
 - X indeproduct metel , KMP menny ,
 - But y intops , we expect when of y when x = 0).
 - B1 : stope , the expected charge in y Ju one-wit charge in x). E: the even terms , the difference between the observed card practical values of y).
 - b. The conditions coefficient of 0.68 indicates a modernee to samp positive linen relationship between the KMP notings and the SET rectings. This interest that in grand, as the KMP rooting increases, the SET rating also tools to increase, and war varian.
 - Honever, noble bleve's a veloouslip between the two variables . we can't say for sue that higher KMP milings cause high SET writings . or vice verson. The culd be other functus and play that influence booth variants.
 - C. A positive conduction coefficient suggests that the slope of the live, B, unlid uses be positive indicating that higher RMP ratings are associated with higher SET transfer, an average
 - ed. Benure the p-vide is so suit , we reject the ult hypothess. This punches strong exidence to suggest that there is a significant comelution between KMP metrys and SET metrys in the population of all llaments of Maine instructures.

C. V2: (v. 68)2 = v. 4624

In this case, V2 = 0.4624 mens that approximately 46.24% of the withdry in the SET manys can be expliced by the HMP manys. While the HMP manys pursue sue information about the SET manys. mue than half of the withdry in SET manys is not explored by the KMP manys, sugarang that other from not included in this model also informe. SET matings.

11.91 $\alpha. \quad te: \frac{r \sqrt{n-2}}{\sqrt{1-r^2}} = \frac{\beta}{\beta_{p_1}^{\beta_1}}$

Given v: 0. 2833 and v. = 3600

t= 938.87

the rule is quite lage. which suggests that the observal canchester of 0.23338 is lightly whilely to have occurred if the the population canchester is zero.

Given the luge size of the test static. it's sign to say that this rule wild exceed any revealed articl rule. leading is to reject the will hypothesis.

Twefie we have sung evidence to suggest the the the population conclusion coefficient velocity IVRHASE and bins is provide.

b. The surrept shows a non-linear and vardance velocitiship between Wildste and birs. then it wild not be approprise to use NRMSte as a liver pediater of birs. Since we would will not fix we chose new and it pulicers will likely be in accurate.

The nost for put a day not contained the conclusion. The constitute coefficient and the associat hypothess that only intensive the straight and chirentum of a liver velocities proven the initiales. So the nost class with mean that the velocities is stratly liver an that we visible can be accordly publicful from the other using a liver include.

11.92.

a. The vole of 0.41 for people in sides occupiting indicates a moderate positive velocitistip between height and average consings. The means not, in great, taken subspeeple tul to have higher average canings than shake subspeeple.

While the 's a velocenship because height and areage enjoys, we and say for one that being taken anses succe to come more. The add be athen fixed and play the influce both height and enjoys.

b. v= (0.41) = 0.1681

An v² rule of 0.1681 means that approximatly 16.81% of the unidately in the analye emigs people in sales comparing an be explained by then height.

While beight provoles sue infunction extra accepte entrys, a laye protion of the variability in entrys corn 30%, is not explored by beight. Supporting the other fronts and included in the newled also influence entrys.

C. Mo: p=0

Ha: p>0

d. Gim : r= 0.41. n= 17

te = V Ju-2

t≈ 4.82

C.
$$n-2 = 117 - 2 = 115$$

Luck up the t-clorebran able: df=15, we will tool as only. He critical only under be appreximatly 2.353. terg. 32 > 2.353 -> Rejut Ho.

V= 0.35 : Moderte privere rebrenship been height and anege enjoys.

NI-10.3512

V² (U.35)² · 0.1225 : Approximately 12.25% of the unibility in the angle conjuge conjuge in mangalad comparisons can be explored by these beight.

t-surver : 7.95262

Trustre, ve he sing evidence the the me population control whith relating nearly and beight for puple in nearly not occupations is positive.

a.
$$\gamma = \beta_0 + \beta_1 \cdot \chi + \Xi$$

b. $\gamma \cdot interpt = 6.31$. The near that if a back had a mean pur dimense of a minimum for $\gamma = 10.33$
 $\overline{\chi} = 10.33$
 $\overline{\gamma} = 10.34$
 $\overline{\gamma} = 10.37$
 $\overline{\chi} = 10.$

$$SST = \overline{z} \cdot y_{1} \cdot \overline{y_{1}}^{2}$$

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$$SST = SST = SST$$

Rejert the Hu: Tis suggers that the independ windle (MPD) along have a similarit effect on the adapted at windle (A1), and the market is alonguate.

- C. V= v. 30.709: The indicates that a strug pesite been relatistip between the even pre dimeter and the approach prossily. As the MPis increases, the approach providy also tails to increase.
- V2=0.642738, This means that approximitely 64.27% of the variability in the apparent proving can be explicit by the MPD. The remaining variability is the to other factures not included in the model or to variability.

J. Gren MPD = 10. ne plug it was un liven regussion model.

ýp = 6.31 + U.97 ×10 = 6.31 + 9.7 ≈ 16.01

This means that we are gif cufillent that the the append provision for a brick with a mean preclimeter of 10 microwers will full within this mage.

 $\bar{\chi} = \frac{1}{n} \sum \chi_i = \frac{1}{6} (12.0 + 9.7 + ... + 16.8) = 10.35$ minument.

Sim =
$$\sum u^{\pm}$$
 trule (two-tuble tet, $9 - 1, CL$) = 2.776
 $\hat{G} = \sqrt{\frac{554}{n-2}}$ of = $n-2 = 6-2 = 24$
 $\times p = 10$

V1 = 11 - (b+b,x.) = 18.8 - 16.31+0.97×12.0)= 1.26

SSR = 1.26" + ...

 $S\hat{\eta} = \hat{\beta} \sqrt{1 + \frac{1}{6} + \frac{10 - 0.35}{\Sigma x_1 - 0.35}^2}$

1.5 Darson fluthen Ser.	K ² = 1 - <u>Structul</u> = 1 - <u>U-181</u> = U-974
N=lo	K * JR* * Ju. 874 * 0. 98/
Ex : 268	MSE = + Zin (y;-y;1 +
Zy = 27.73	
5xy = 300. 62	elf resolut
Ξx ⁺ = 7668	
	8
B1 = <u>H \ Zer J = Zer - Zy</u> = <u>10 x 200 ba - 262 x 27.73</u> D1 = <u>H \ Zer J = Zer - Zy</u> = <u>10 x 200 ba - 262 x 27.73</u> D1 = <u>H \ Zer J = Zer - Zy</u> = <u>10 x 200 ba - 262 x 27.73</u>	يدن.ن ش
$\sum_{i=1}^{n} \sum_{j=1}^{n} \sum_{i=1}^{n} \sum_{j=1}^{n} \sum_{i$	
$50^{2} - \frac{1}{10} = $	Time who surved shot the world tok the close outer well. The
	so h and the state to the state of the small small indication and
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	the Ri = 0
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. Kesicht ! Masseld = n-2 where n is the nubr of observin	as = 8 Comment of States = 2/.41
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Sun of Squees	T. eg. within =1. eg. reading =8
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a. 39.
a. 39.
b.
$$\frac{1}{12}$$

b. $\frac{1}{2} = \frac{1}{12} \frac$