MAT: 3312 Homework assignment 6 (Regression Analysis)

Name: Student4 Date 4/27/21

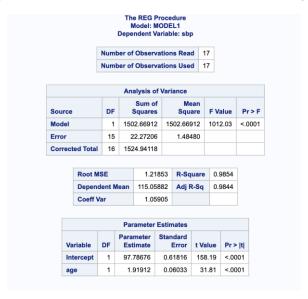
Due: April 28th at 12:40. Upload to canvas.

The table below is from a sample of SBP of kids who are average height.

Age (x)	SBPn(y)	Age (x)	SBP _n (y)
1	99	10	115
2	102	11	117
3	105	12	120
4	107	13	122
5	108	14	125
6	110	15	127
7	111	16	130
8	112	17	132
9	114		

Input the data above into SAS.

Question 1. Run a linear regression model to determine relating age to Systolic Blood Pressure. Paste output here (Analysis of Variance and Parameter estimate tables).



Question 2. Provide an interpretation of the parameter estimate for age. SBP is expected to increase by 1.919 units for each unit increase in age.

Question 3. Provide an interpretation of the parameter estimate for the intercept. Average SBP is 97.786 units when age is 0.

Question 2. Test for the statistical significance of this regression line using the F test. What is the F-test statistics? 1012.03

Question 3. What is the p-value from the F-test statistics? < .0001

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Question 4. What is the conclusion for based on the p-value from the F test? We fail to reject the null hypothesis, there is evidence that our model does not provide a better fit than the intercept-only model.

Question 5. Test for the statistical significance of the regression line using the t-test. What is the t-test statistics? 31.81

Question 6. What is the p-value from the t-test statistics? < .0001

Question 7. What is the conclusion for based on the p-value from the t test? We will fail to reject the hypothesis. There isn't enough evidence that age has a significant effect to SBP.

Paste code here.

```
1 LIBNAME datalib "~/my_shared_file_links/griffinfr0" access=readonly;
  4 data sbp;
  5 input age sbp;
  6 cards;
  7 1 99
  8 2 102
  9 3 105
 10 4 107
 11 5 108
 12 6 110
 13 7 111
 14 8 112
 15 9 114
 16 10 115
 17 11 117
 18 12 120
 19 13 122
 20 14 125
 21 15 127
 22 16 130
 23 17 132
 24 ;
 25 run;
 26
 27 proc reg data= sbp;
 28 model sbp=age;
29 run;
```