Tugas Besar Analisis Data Statistika

Kelompok 6 RB

Output codeR_6_RB :

1. **Model 1 : Pengaruh Pendapatan Orang Tua terhadap IPK**

- Hasil uji korelasi :

```
Pearson's product-moment correlation

data:  df_analisis$Pendapatan_Juta and df_analisis$IPK
t = 0.14194, df = 131, p-value = 0.8873
alternative hypothesis: true correlation is not equal to 0
95 percent confidence interval:
 -0.1581601  0.1822426
sample estimates:
       cor
0.01240052
```

- Hasil analisis regresi

  Call:

  lm(formula = IPK ~ Pendapatan_Juta, data = df_analisis)

  Residuals:

Min	1Q	Median	3Q	Max
-0.94768	-0.24768	0.02232	0.23892	0.65487

  Coefficients:

	Estimate	Std. Error	t value	Pr(>|t|)	
(Intercept)	3.344278	0.052894	63.226	<2e-16	***
Pendapatan_Juta	0.001702	0.011988	0.142	0.887	

  Signif. codes: 0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

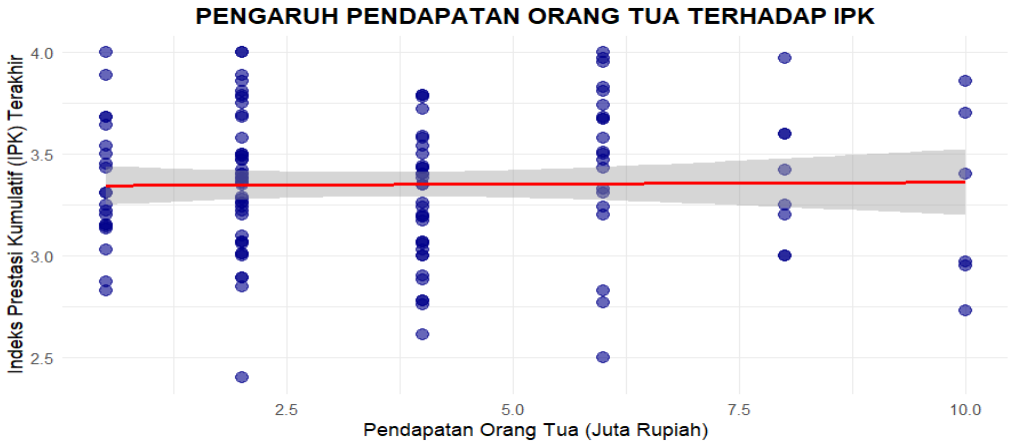
  Residual standard error: 0.3472 on 131 degrees of freedom

  Multiple R-squared: 0.0001538, Adjusted R-squared: -0.007479

  F-statistic: 0.02015 on 1 and 131 DF, p-value: 0.8873

  $\hat{Y} = 3.344 + 0.002\ X$

- Visualisasi model :



2. Model 2 : Pengaruh Jarak Tempat Tinggal terhadap IPK

- Hasil uji korelasi :
  Pearson's product-moment correlation

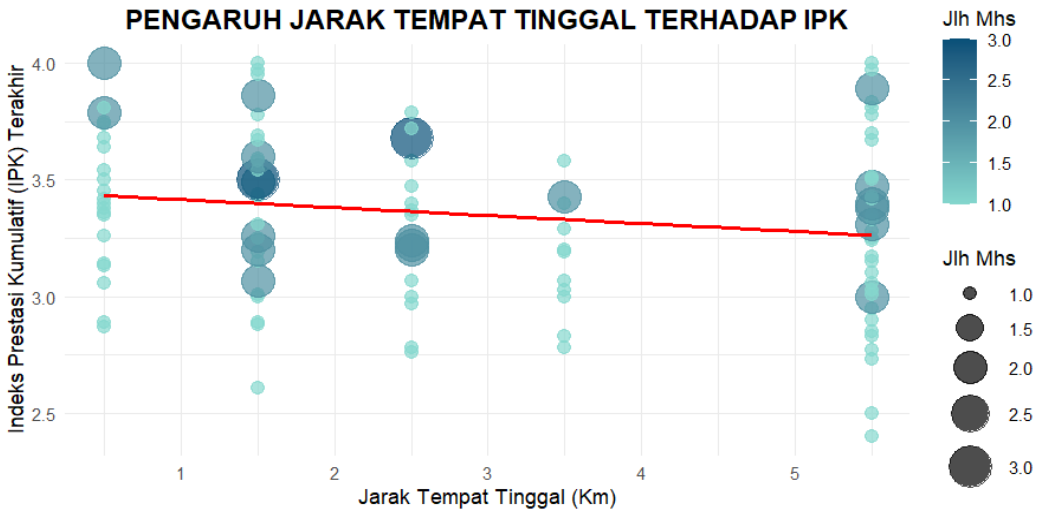
  data: df_model2$Jarak and df_model2$IPK
  t = -2.2174, df = 131, p-value = 0.02832
  alternative hypothesis: true correlation is not equal to 0
  95 percent confidence interval:
  -0.34911818 -0.02063582
  sample estimates:
  cor
  -0.1901945
- Hasil analisis regresi :
  Call:
  lm(formula = IPK ~ Jarak, data = df_model2)

  Residuals:
  Min 1Q Median 3Q Max
  -0.86287 -0.24910 0.01713 0.21495 0.73713

  Coefficients:
  Estimate Std. Error t value Pr(>|t|)
  (Intercept) 3.45019 0.05382 64.101 <2e-16 ***
  Jarak -0.03406 0.01536 -2.217 0.0283 * ---
  Signif. codes: 0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

  Residual standard error: 0.3409 on 131 degrees of freedom
  Multiple R-squared: 0.03617, Adjusted R-squared: 0.02882
  F-statistic: 4.917 on 1 and 131 DF, p-value: 0.02832

  $\hat{Y} = 3.450 - 0.034\ X$
- Visualisasi model :



3. Model 3 : Pengaruh Akses Internet (Wifi Pribadi) terhadap IPK

- Hasil uji korelasi :
  Pearson's product-moment correlation

  data: df_final$Wifi_Pribadi and df_final$IPK
  t = 0.10013, df = 131, p-value = 0.9204
  alternative hypothesis: true correlation is not equal to 0
  95 percent confidence interval:
  -0.1617199 0.1787084
  sample estimates:
  cor
  0.00874773
- Hasil analisis regresi :
  Call:
  lm(formula = IPK ~ Wifi_Pribadi, data = df_final)

  Residuals:
  Min 1Q Median 3Q Max
  -0.9547 -0.2547 0.0217 0.2353 0.6517

  Coefficients:
  Estimate Std. Error t value Pr(>|t|)
  (Intercept) 3.348295 0.037013 90.46 <2e-16 ***
  Wifi_Pribadi 0.006371 0.063632 0.10 0.92

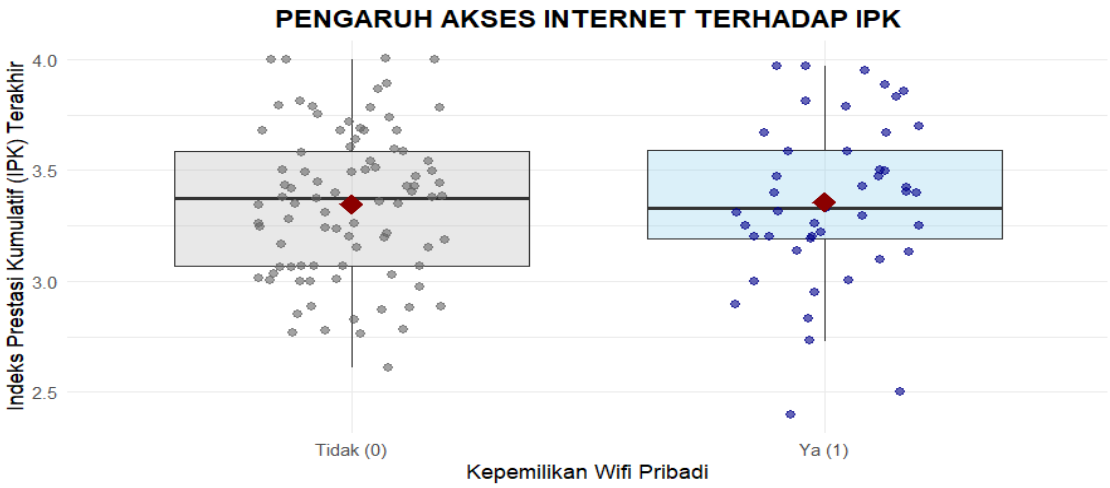
  Signif. codes: 0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

  Residual standard error: 0.3472 on 131 degrees of freedom
  Multiple R-squared: 7.652e-05, Adjusted R-squared: -0.007556

F-statistic: 0.01003 on 1 and 131 DF, p-value: 0.9204

Ŷ = 3.348 + 0.006 X

- Visualisasi model :



4. Model 4 : Analisis Regresi Berganda

- Hasil analisis regresi :

Call:
lm(formula = IPK ~ Pendapatan_Juta + Jarak + Wifi_Pribadi, data = df_final)

Residuals:
    Min   1Q Median   3Q   Max
-0.86531 -0.22863 0.03623 0.23137 0.74016

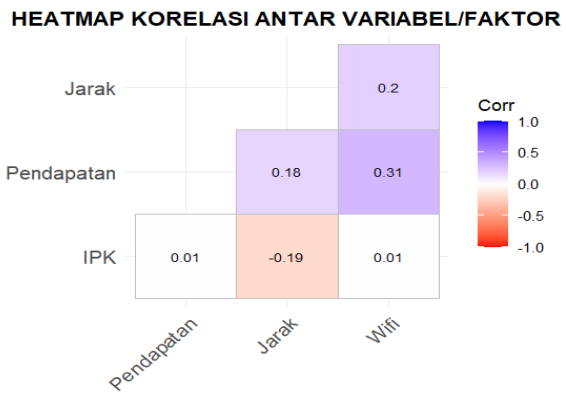
Coefficients:
                Estimate Std. Error t value Pr(>|t|)
(Intercept)   3.429433   0.064629 53.063   <2e-16 ***
Pendapatan_Juta 0.005302   0.012584   0.421   0.6742
Jarak   -0.036620   0.015894 -2.304   0.0228 * Wifi_Pribadi   0.026679
0.066939   0.399   0.6909

Signif. codes: 0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.3429 on 129 degrees of freedom
Multiple R-squared: 0.03969,	Adjusted R-squared: 0.01736
F-statistic: 1.777 on 3 and 129 DF, p-value: 0.1547

Ŷ = 3.429 + 0.005 X□ - 0.037 X□ + 0.027 X□

- Visualisasi model :


HEATMAP KORELASI ANTAR VARIABEL/FAKTOR
Jarak
Pendapatan
IPK
0.2
0.18
0.31
0.01
-0.19
0.01
Pendapatan
Jarak
Wifi
Corr
1.0
0.5
0.0
-0.5
-1.0