



**KEMENTERIAN PENDIDIKAN, KEBUDAYAAN, RISET DAN TEKNOLOGI**  
**POLITEKNIK NEGERI MALANG**  
**JURUSAN TEKNOLOGI INFORMASI**

Jl. Soekarno Hatta No.9 Malang 65141  
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**MID-TERM EXAMINATION (UTS)**

**Mata Kuliah** : Statistik Komputasi  
**Dosen** : Muhammad Afif Hendawan, S.Kom., M.T.  
Elok Nur Hamdana, S.T., M.T.  
Sofyan Noor Arief, S.ST., M.Kom.,  
Septian Enggar Sukmana, S.Pd., M.T.  
**Waktu** : 200 Menit  
**Sifat** : Open Book

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**Student** : Adinda Rahajeng Silvia Pranesti  
**NIM/NA** : 2141720158 / 02  
**Class** : 2I TI

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You will use Pokemon data which can be accessed by this [link](#). Your uploaded work must provide the justification of the calculation!

Rule:

- You are allowed to use one of these tools, such: Google Spreadsheet, Microsoft Excel, Pandas Python
- You are prohibited to use these several tools: Analysis Toolpak Ms. Excel, SPSS, LISREL, JASP, etc.
- **BE CONFIDENT TO DO YOUR EXAM BY YOURSELF**

1. Complete your Pokemon data! Non-complete data of your Pokemon may affect to your score (50% point discount).



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## **ANSWER**

2. Calculate on “HP”,
- Determine the mean, variance, and its standard deviation. (5 pts)
  - Determine the Q1, Q2, and Q3. (5 pts)
  - Is there any *outliers*? Mention if any! (5 pts)

**Answer :**

2. Calculate on “HP”,	
<b>a. Determine the mean, variance, and its standard deviation. (5 pts)</b>	
Type	Nominal
- Mean	49,81403509
- Variance	739,2223375
- Standard deviation	27,18864354
<b>b. Determine the Q1, Q2, and Q3. (5 pts)</b>	
Q1	29
Q2	45
Q3	65
<b>c. Is there any <i>outliers</i>? Mention if any! (5 pts)</b>	
IQR	36
Upper Bound	-25
Lower Bound	83
OUTLIERS	120,128,138,157

3. Based on your calculation at No. 1, make these several things:
- Boxplot of “HP” (10 pts)
  - Histogram of “HP” with the *bins* is 100. (10 pts)

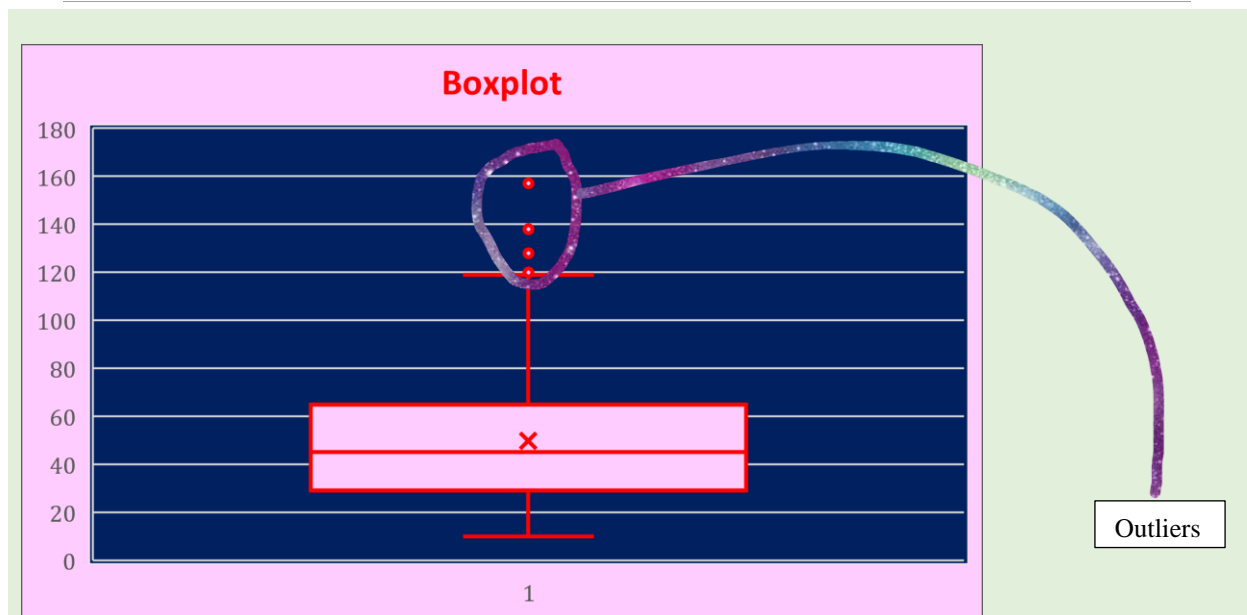
3. Based on your calculation at No. 1, make these several things:	
<b>a. Boxplot of “HP” (10 pts)</b>	<b>Total</b>
Min	10
Q1	29
Q2-Q1	16
Q3-Q2	20
Max-Q3	92
Q1-Min	19
Q2	45
Q3	65
Max	157



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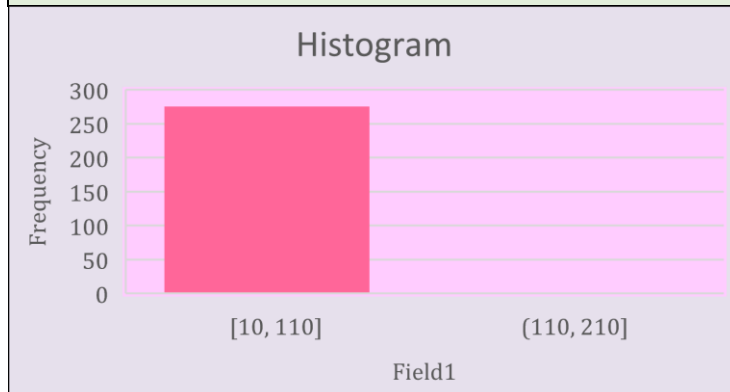
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**b. Histogram of “HP” with the bins is 100. (10 pts)**

min	10
max	157
Q1	29,00
Q3	65,00
IQR	36,00
Median	45





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4. Based on mean and standard deviation from No. 1, determine
- The *z-score* to Pokemon which has CP value up to 400 **(10 pts)**
  - Probability of Pokemon which has DEF more than 60 **(10 pts)**

Note:

- Use 3 decimal rounded for mean and standard deviation
- Use 2 decimal no-rounded for z-score.
- Use all decimal no-rounded for probability score

ANSWER	ANSWER	ANSWER	ANSWER	ANSWER
Mean & SD from numb				
1	3 decimal			
Mean HP	49,81404	49,814		
Stan.Dev				
HP	27,18864	27,1886		
Up to 400				
Mean	138,55144	138,551		
Stan.Dev	101,91657	101,916		
B. Probability (>60)				
>60	0,701754386			
max	198			
min	-0,86886259			
sum from >60	200			
interval bins				
interval	array	freq	probabilitas	
60-88	88	86	0,43	
89-116	116	75	0,375	
117-144	144	20	0,1	
145-172	172	11	0,055	
173-200	200	8	0,04	
		0		

5. Determine,
- Probability of “CAUGHT” and “FLEE”. **(5 pts)**
  - By choosing Pokemon 10 times randomly, what is the probability of 3 electric Pokemons? **(20 pts)**



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- c. Use bar chart to represent the distribution of any Pokemons which are caught at Polinema using 10 point scale. **(20 poin)**

Catatan: Gunakan seluruh nilai desimal yang ada.

A.

a. Probability of "CAUGHT" and "FLEE". (5 pts)			
Action	amount	Probability	to Decimal
Pokemon total	285		285.0
Caught	274	274/285	0.96140350877
Flee	11	11/285	0.038596491228

B.

**Note : Randomly = Combination**

$${}_n C_r = \frac{n!}{(n-r)!r!}$$

S0 =

10C3 = 120

Cara lain dengan jawaban lain dan sudut pandang lain

Total Caught of Pokemon	274/285
Total Electric Pokemon(caught)	31
Probability Electric Pokemon caught	0,108772
3 electric Pokemon from 10times randomly	0,068969

C.

Pokemon	location
Shelmet	Polinema
Clauncher	Polinema
Starly	Polinema
Ledyba	Polinema
Patrat	Polinema
Caterpie	Polinema
Starly	Polinema
Zubat	Polinema
Magikarp	Polinema
Shroomish	Polinema
Ledyba	Polinema

Pokemon	Freq
Aron	1
Bulbasaur	2
Bunnelby	2
Castform	2
Caterpie	4
Charmander	1
Chinchou	3
Clauncher	1
Cyndaquil	1
Deerling	1
diglett	1



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Pidove	Polinema	Drifblim	1
Tynamo	Polinema	Duoduo	1
Lillipup	Polinema	Eevee	1
Hoppip	Polinema	Ekans	3
Castform	Polinema	Foongus	1
Weedle	Polinema	Froakie	4
Solrock	Polinema	Gastly	1
Starly	Polinema	Glameow	2
Purrloin	Polinema	Himontop	1
Tynamo	Polinema	Hitmontop	2
Lillipup	Polinema	Hoppip	3
Bunnelby	Polinema	Houndour	3
Froakie	Polinema	Karrablast	1
Weedle	Polinema	Kricketot	1
Pidove	Polinema	Ledyba	4
Pidove	Polinema	Lillipup	2
Ledyba	Polinema	Magikarp	2
Stufful	Polinema	Mareanie	2
Bulbasaur	Polinema	Nosepass	1
Caterpie	Polinema	Oddish	4
pikachu	Polinema	Pansage	1
diglett	Polinema	Patrat	3
Hoppip	Polinema	Pidove	4
Teddiursa	Polinema	pikachu	2
Slugma	Polinema	Primeape	1
Houndour	Polinema	Purrloin	2
Himontop	Polinema	Sentret	1
Nosepass	Polinema	Shelmet	1
Volbeat	Polinema	Shroomish	1
Castform	Polinema	Slugma	1
Teddiursa	Polinema	Solrock	2
Chinchou	Polinema	Staravia	1
Yungoos	Polinema	Starly	5
Weedle	Polinema	Stufful	2
Froakie	Polinema	Stunky	1
Ekans	Polinema	Surskit	3
Oddish	Polinema	Teddiursa	3
Stunky	Polinema	Tranquil	1
Gastly	Polinema	Tympole	1
Stufful	Polinema	Tynamo	2
Duoduo	Polinema	Volbeat	1
Pidove	Polinema	Voltrob	2
Voltrob	Polinema	Vulpix	1
Oddish	Polinema	Weedle	3
Purrloin	Polinema	Yungoos	1



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Zubat	Polinema	Zubat	3
Tympole	Polinema		
Chinchou	Polinema		
Froakie	Polinema		
Glameow	Polinema		
Pansage	Polinema		
Glameow	Polinema		
Magikarp	Polinema		
Karrablast	Polinema		
Aron	Polinema		
Starly	Polinema		
Caterpie	Polinema		
Surskit	Polinema		
Primeape	Polinema		
Ledyba	Polinema		
Solrock	Polinema		
Ekans	Polinema		
Patrat	Polinema		
Hoppip	Polinema		
Teddiursa	Polinema		
Bunnelby	Polinema		
Vulpix	Polinema		
Foongus	Polinema		
Zubat	Polinema		
Drifblim	Polinema		
Voltrob	Polinema		
Surskit	Polinema		
Staravia	Polinema		
Houndour	Polinema		
Mareanie	Polinema		
Houndour	Polinema		
Sentret	Polinema		
Caterpie	Polinema		
Eevee	Polinema		
Surskit	Polinema		
Bulbasaur	Polinema		
Charmander	Polinema		
Tranquil	Polinema		
Hitmontop	Polinema		
Starly	Polinema		
Kricketot	Polinema		
Ekans	Polinema		
Deerling	Polinema		
Cyndaquil	Polinema		
Chinchou	Polinema		
Froakie	Polinema		



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Patrat	Polinema
Oddish	Polinema
Oddish	Polinema
Mareanie	Polinema
Tentacool	Polinema
Lairon	Polinema
Hitmontop	Polinema
Lairon	Polinema
Pikachu	Polinema

