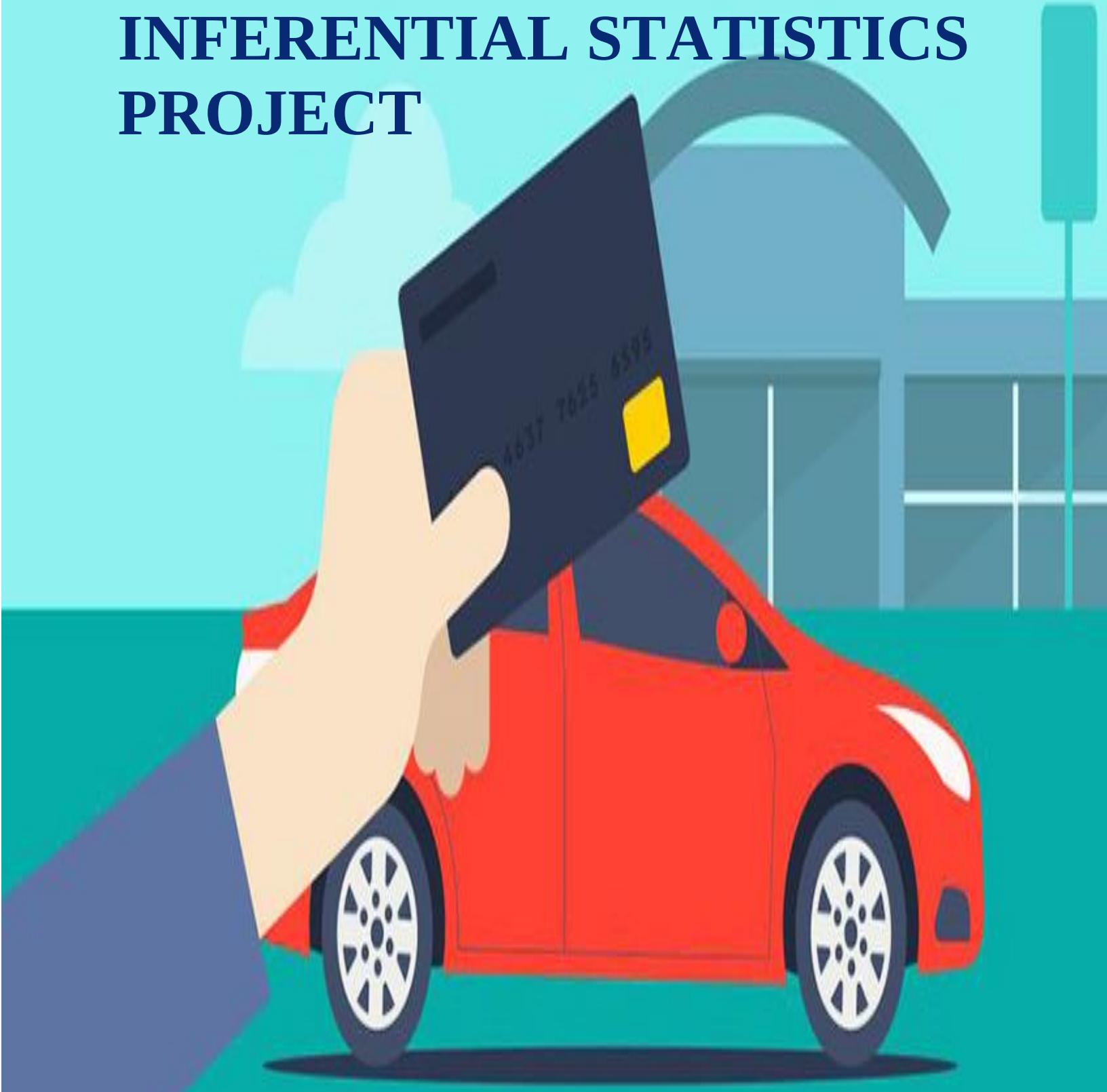
BUSINESS REPORT ON INFERENTIAL STATISTICS PROJECT



-RAHUL SHARMA

FIGURES: -

Problem1: Physiotherapist

1.1 What is the probability that a randomly chosen player would suffer an injury?

Answer:- The probability that a randomly chosen player would suffer an injury is 61.70%

1.2 What is the probability that a player is a forward or a winger?

Answer:- The probability that a player is a forward or a winger is 100.00%

1.3 What is the probability that a randomly chosen player plays in a striker position and has a foot injury?

Answer:- The probability that a randomly chosen player plays in a striker position and has a foot injury is 31.03%

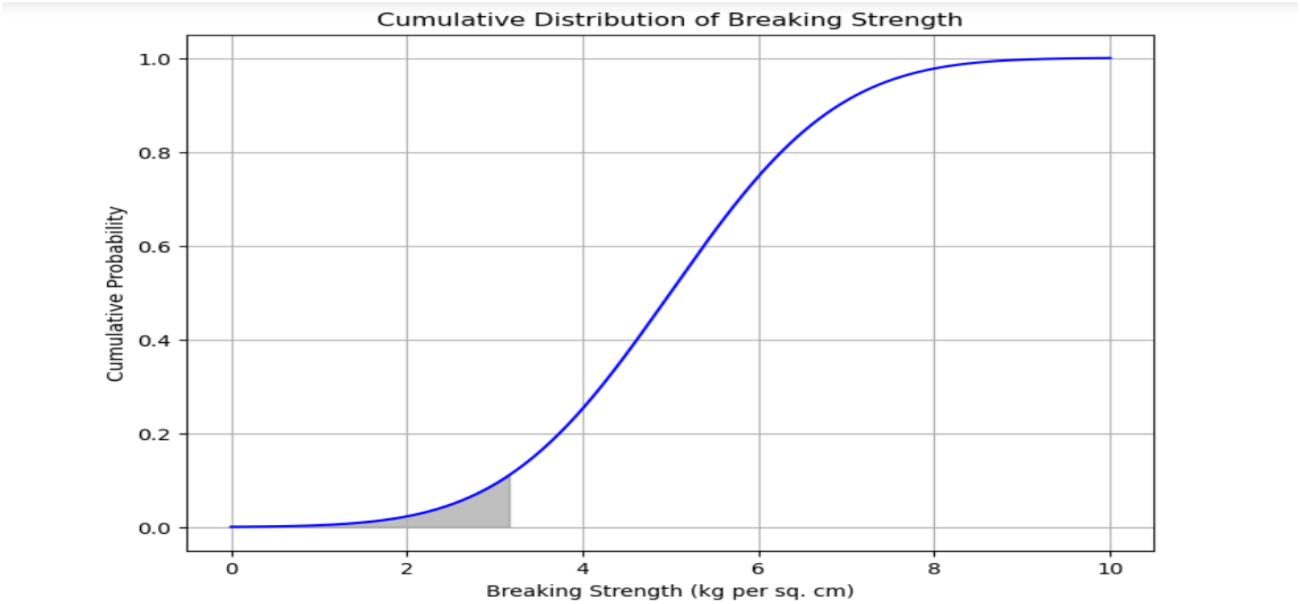
1.4 What is the probability that a randomly chosen injured player is a striker?

Answer:- The probability that a randomly chosen injured player is a striker is 31.03%

Problem2: Gunny Bags

2.1 What proportion of the gunny bags have a breaking strength of less than 3.17 kg per sq cm?

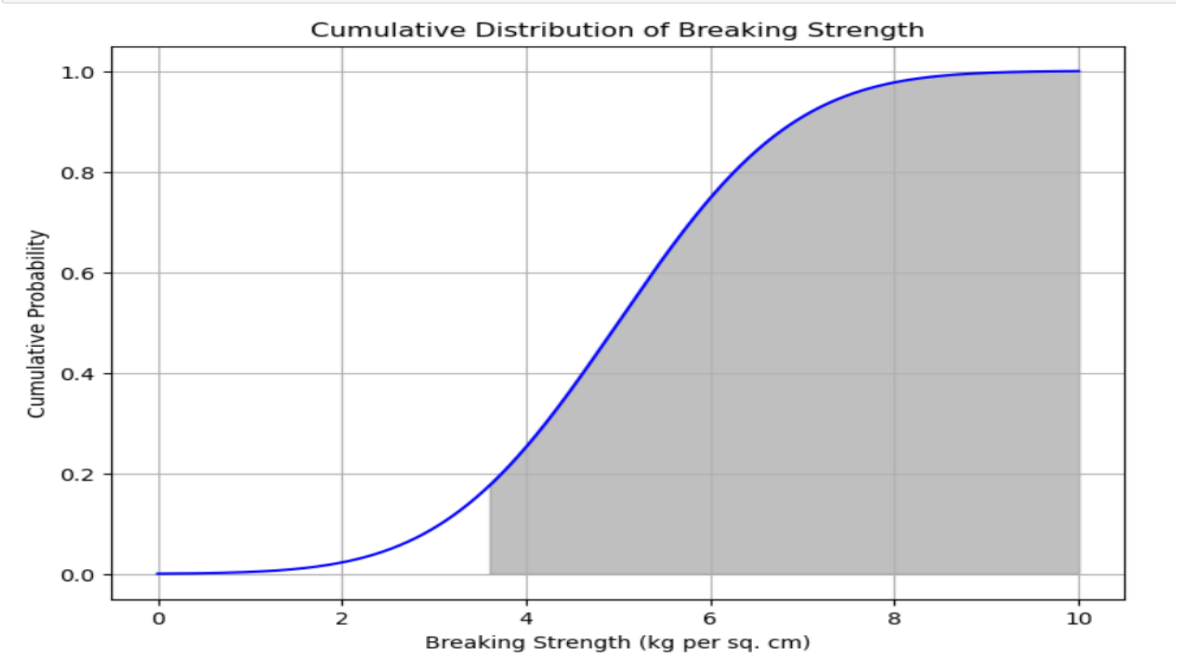
Answer:-



FIG(1):- Proportion of gunny bags have a breaking strength of less than 3.17 kg per sq cm

2.2 What proportion of the gunny bags have a breaking strength of at least 3.6 kg per sq cm.?

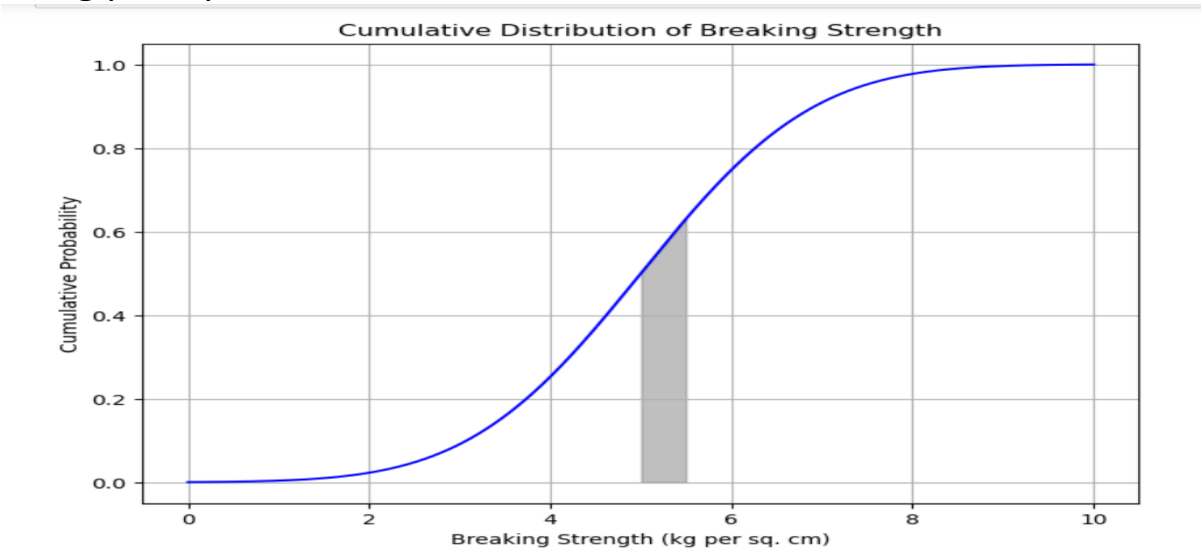
Answer:- The proportion of gunny bags with breaking strength of at least 3. 6 kg per sq. cm is 0.8247



FIG(2):- Proportion of gunny bags have a breaking strength of at least 3.6 kg sq cm.

2.3 What proportion of the gunny bags have a breaking strength between 5 and 5.5 kg per sq cm.?

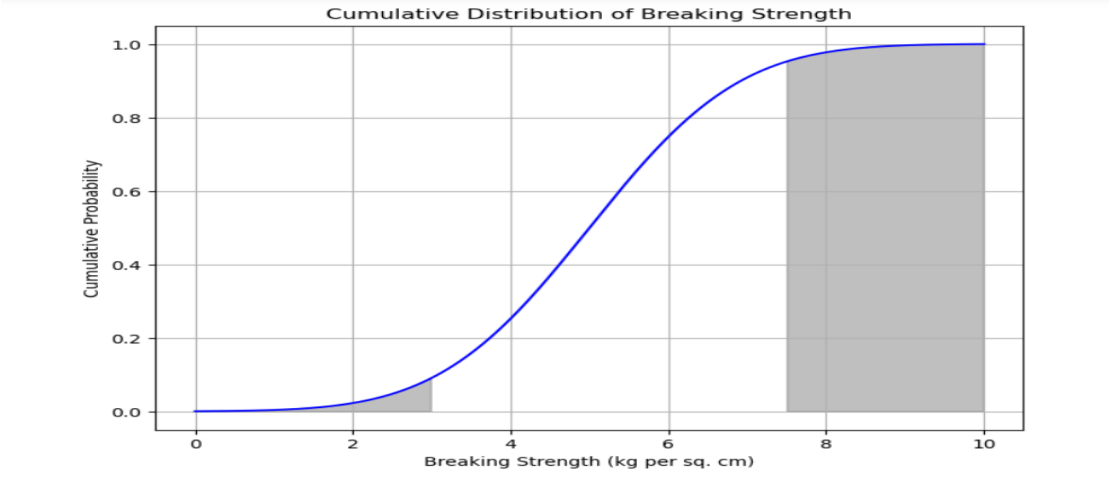
Answer:- The proportion of gunny bags with breaking strength between 5 a nd 5.5 kg per sq. cm is 0.1306



FIG(3):- Proportion of gunny bags have a breaking strength between 5 and 5.5 kg per sq cm

2.4 What proportion of the gunny bags have a breaking strength NOT between 3 and 7.5 kg per sq cm.?

Answer:- The proportion of gunny bags with breaking strength not between 3 and 7.5 kg per sq. cm is 0.1390



FIG(4):- Proportion of gunny bags have a breaking strength not between 3 and 7.5 kg per sq cm.

Problem3: Zingaro Stone

3.1 Zingaro has reason to believe that the unpolished stones may not be suitable for printing. Do you think Zingaro is justified in thinking so?

Answer:- The unpolished stones may not meet the printing requirements.

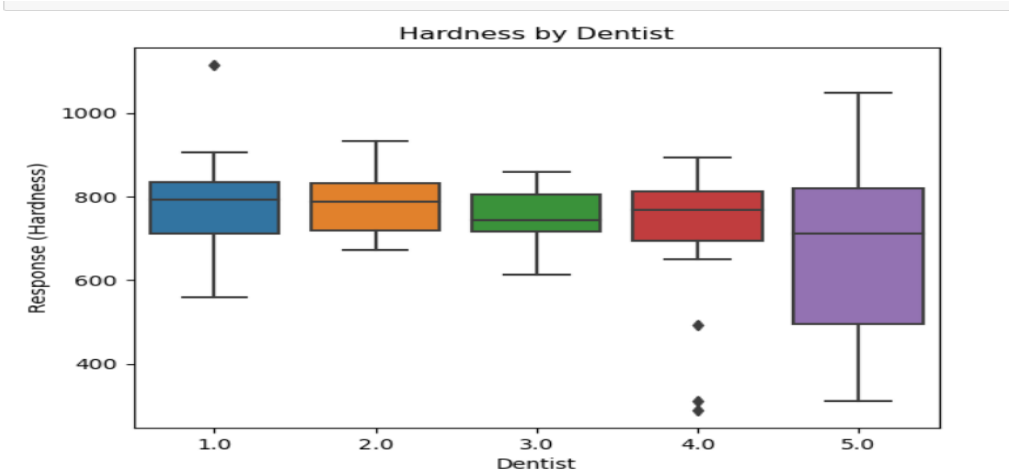
3.2 Is the mean hardness of the polished and unpolished stones the same?

Answer:- The mean hardness of polished and unpolished stones is significan tly different.

Problem4: Dental Implant Data

4.1 How does the hardness of implants vary depending on dentists?

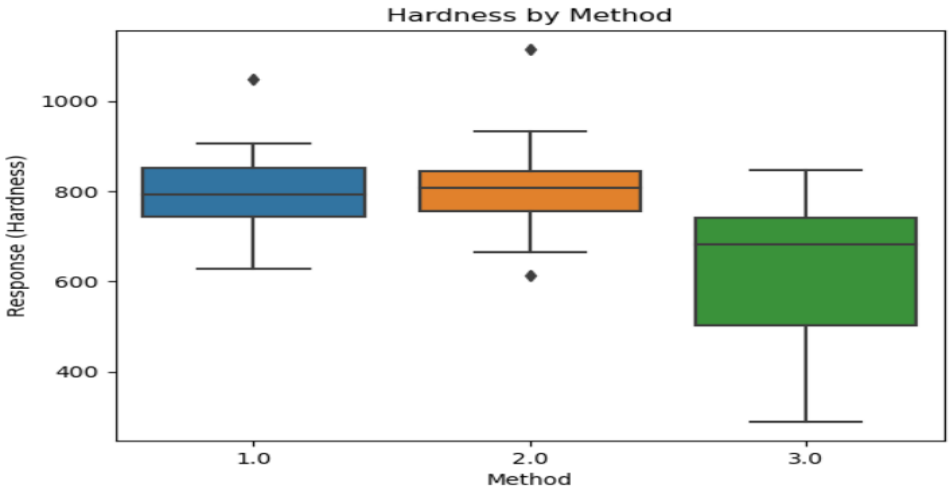
Answer:-



FIG(5):- Hardness of implants vary depending on dentists.

4.2 How does the hardness of implants vary depending on methods?

Answer:- ANOVA F-statistic: 19.89268013119534
ANOVA p-value: 7.683891892977992e-08



FIG(6):- Hardness of implants vary depending on methods.

4.3 What is the interaction effect between the dentist and method on the hardness of dental implants for each type of alloy?

Answer:-

	df	sum_sq	mean_sq	F	PR(>F)
Dentist	1.0	1.465472e+05	146547.200000	11.145162	1.268902e-03
Method	1.0	4.173336e+05	417333.600000	31.738925	2.412583e-07
Dentist:Method	1.0	1.136521e+05	113652.075000	8.643432	4.263514e-03
Alloy	1.0	1.058155e+05	105815.511111	8.047448	5.739468e-03
Dentist:Alloy	1.0	2.769089e+03	2769.088889	0.210594	6.475164e-01
Method:Alloy	1.0	2.646000e+04	26460.000000	2.012328	1.598154e-01
Dentist:Method:Alloy	1.0	3.040083e+02	304.008333	0.023120	8.795180e-01
Residual	82.0	1.078214e+06	13148.952100	NaN	NaN

4.4 How does the hardness of implants vary depending on dentists and methods together?

Answer:-

	df	sum_sq	mean_sq	F	PR(>F)
Dentist	1.0	1.465472e+05	146547.20000	10.385174	1.795039e-03
Method	1.0	4.173336e+05	417333.60000	29.574648	4.970469e-07
Dentist:Method	1.0	1.136521e+05	113652.07500	8.054037	5.662740e-03
Residual	86.0	1.213563e+06	14111.19396	NaN	NaN