

NPTEL » Data Analytics with Python



Announcements

About the Course

Ask a Question

Progress

Mentor

Unit 4 - Week 3

How does an NPTEL online

Python Demo for Distributions

O Distribution of Sample Means, population, and variance

Sampling and Sampling

Confidence interval

Confidence interval

Ouiz: Assignment 3

Solution : Assignment 3

Week 4

Week 5

Week 6

Week 7

Week 8

Week 9

Week 10

Week 11

Week 12

Feedback

Download Videos

Text Transcripts

7.743

7.743

O None of the above

Accepted Answers:

No, the answer is incorrect. Score: 0

Course outline

course work?

Week 1

Week 2

Week 3

ourse outline	Assignment 3	
ow does an NPTEL online ourse work?	The due date for submitting this assignment has passed. Due on 2020-02-19, 23:5	9 IST.
eek 1	As per our records you have not submitted this assignment.	
eek 2	 If the true proportion of customers who are below 20 years is P=0.35, what is the probability that a sample size 100 yields a sample proportion between 0.3 to 0.4? 	1 poi
eek 3	○ 0.961 ○ 0.827	
Python Demo for Distributions	0.706	
Sampling and Sampling	○ 0.53	
Distribution	No, the answer is incorrect.	
Distribution of Sample Means, population, and variance	Score: 0 Accepted Answers: 0.706	
Confidence interval estimation: Single population -	 Statement: The chi-square distribution is a family of distribution depending on the degree of freedom, i.e., = n-k-1. Where n = Population observations 	1 poi
Confidence interval estimation: Single population -	k = sample observations State, whether the above statement is:	
Quiz : Assignment 3	○ True	
Solution : Assignment 3	False	
eek 4	No, the answer is incorrect. Score: 0 Accepted Answers:	
eek 5	False	
eek 6	3) A shaft manufacturing company is having a permissible variance of 9mm2 in the diameter of manufactured shafts. A sample of 10 shafts is to be tested, what is the permissible upper limit of standard deviation for the sample at α = 0.05?	1 poi
eek 7	○ 3.33	
eek 8	O 4.11	
SER O	O 5.22	
eek 9	O 6.11	
eek 10	No, the answer is incorrect. Score: 0 Accepted Answers:	
eek 11	4.11	
eek 12	4) Why one should not go for sampling?	1 poi
ownload Videos	Less costly to administer than a census.	
edback	The person authorizing the study is comfortable with the sample Because the research process is sometimes destructive	
edback		
xt Transcripts	None of the above	
	No, the answer is incorrect. Score: 0	
	Accepted Answers: None of the above	
	5) Stratified random sampling is a method of selecting a sample in which	1 poi
	the sample is first divided into strata, and then random samples are taken from each stratum	
	various strata are selected from the sample	
	The population is first divided into strata, and then random samples are drawn from each stratum.	

1) If the true proportion of customers who are below 20 years is P=0.35, what is the probability that a sample size 100 yields a sample proportion between 0.3 to 0.4?	1 point
0.961	
0.827	
0.706	
O 0.53 No, the answer is incorrect.	
Score: 0 Accepted Answers: 0.706	
2) Statement: The chi-square distribution is a family of distribution depending on the degree of freedom, i.e., = n-k-1.	1 point
Where n = Population observations k = sample observations State, whether the above statement is:	
○ True ○ False	
No, the answer is incorrect. Score: 0	
Accepted Answers: False	
3) A shaft manufacturing company is having a permissible variance of 9mm2 in the diameter of manufactured shafts. A sample of 10 shafts is to be tested, what is the permissible upper limit of standard deviation for the sample at α = 0.05?	1 point
3.33	
○ 4.11	
○ 5.22 ○ 5.44	
0 6.11	
No, the answer is incorrect. Score: 0	
Accepted Answers: 4.11	
Why one should not go for sampling?	1 point
Less costly to administer than a census.	
The person authorizing the study is comfortable with the sample	
Because the research process is sometimes destructive	
None of the above	
No, the answer is incorrect.	
Score: 0 Accepted Answers:	
None of the above	
5) Stratified random sampling is a method of selecting a sample in which	1 point
the sample is first divided into strata, and then random samples are taken from each stratum	
various strata are selected from the sample The population is first divided into strate, and then renders complete are drawn from each stratum.	
The population is first divided into strata, and then random samples are drawn from each stratum None of these alternatives is correct	
No, the answer is incorrect. Score: 0	
Score. 0	
Accepted Answers:	
Accepted Answers: The population is first divided into strata, and then random samples are drawn from each stratum	
The population is first divided into strata, and then random samples are drawn from each stratum 6) State whether true or false:	1 point
The population is first divided into strata, and then random samples are drawn from each stratum	1 point
The population is first divided into strata, and then random samples are drawn from each stratum 6) State whether true or false:	1 point
The population is first divided into strata, and then random samples are drawn from each stratum 6) State whether true or false: Statement: Sampling error occurs when the sample is representative of the population True False	1 point
The population is first divided into strata, and then random samples are drawn from each stratum 6) State whether true or false: Statement: Sampling error occurs when the sample is representative of the population True False No, the answer is incorrect. Score: 0	1 point
The population is first divided into strata, and then random samples are drawn from each stratum 6) State whether true or false: Statement: Sampling error occurs when the sample is representative of the population True False No, the answer is incorrect.	1 point
The population is first divided into strata, and then random samples are drawn from each stratum 6) State whether true or false: Statement: Sampling error occurs when the sample is representative of the population True False No, the answer is incorrect. Score: 0 Accepted Answers: False	
The population is first divided into strata, and then random samples are drawn from each stratum 6) State whether true or false: Statement: Sampling error occurs when the sample is representative of the population True False No, the answer is incorrect. Score: 0 Accepted Answers: False 7) Which of the following is a type of sampling distribution?	1 point
The population is first divided into strata, and then random samples are drawn from each stratum 6) State whether true or false: Statement: Sampling error occurs when the sample is representative of the population True False No, the answer is incorrect. Score: 0 Accepted Answers: False	
The population is first divided into strata, and then random samples are drawn from each stratum 6) State whether true or false: Statement: Sampling error occurs when the sample is representative of the population True False No, the answer is incorrect. Score: 0 Accepted Answers: False 7) Which of the following is a type of sampling distribution? Sampling distribution of sample median. Sampling distribution of sample standard deviation. Sampling distribution of sample mode.	
The population is first divided into strata, and then random samples are drawn from each stratum 6) State whether true or false: Statement: Sampling error occurs when the sample is representative of the population True False No, the answer is incorrect. Score: 0 Accepted Answers: False 7) Which of the following is a type of sampling distribution? Sampling distribution of sample median. Sampling distribution of sample standard deviation. Sampling distribution of sample mode.	
The population is first divided into strata, and then random samples are drawn from each stratum 6) State whether true or false: Statement: Sampling error occurs when the sample is representative of the population True False No, the answer is incorrect. Score: 0 Accepted Answers: False 7) Which of the following is a type of sampling distribution? Sampling distribution of sample median. Sampling distribution of sample standard deviation. Sampling distribution of sample mode. Sampling distribution of sample proportion. No, the answer is incorrect.	
The population is first divided into strata, and then random samples are drawn from each stratum 6) State whether true or false: Statement: Sampling error occurs when the sample is representative of the population True False No, the answer is incorrect. Score: 0 Accepted Answers: False 7) Which of the following is a type of sampling distribution? Sampling distribution of sample median. Sampling distribution of sample standard deviation. Sampling distribution of sample mode. Sampling distribution of sample proportion. No, the answer is incorrect. Score: 0	
The population is first divided into strata, and then random samples are drawn from each stratum 6) State whether true or false: Statement: Sampling error occurs when the sample is representative of the population True False No, the answer is incorrect. Score: 0 Accepted Answers: False 7) Which of the following is a type of sampling distribution? Sampling distribution of sample median. Sampling distribution of sample standard deviation. Sampling distribution of sample mode. Sampling distribution of sample proportion. No, the answer is incorrect.	
The population is first divided into strata, and then random samples are drawn from each stratum 6) State whether true or false: Statement: Sampling error occurs when the sample is representative of the population True False No, the answer is incorrect. Score: 0 Accepted Answers: False 7) Which of the following is a type of sampling distribution? Sampling distribution of sample median. Sampling distribution of sample standard deviation. Sampling distribution of sample mode. Sampling distribution of sample proportion. No, the answer is incorrect. Score: 0 Accepted Answers:	1 point
The population is first divided into strata, and then random samples are drawn from each stratum 6) State whether true or false: Statement: Sampling error occurs when the sample is representative of the population True False No, the answer is incorrect. Score: 0 Accepted Answers: False 7) Which of the following is a type of sampling distribution? Sampling distribution of sample median. Sampling distribution of sample standard deviation. Sampling distribution of sample mode. Sampling distribution of sample proportion. No, the answer is incorrect. Score: 0 Accepted Answers: Sampling distribution of sample proportion.	1 point
The population is first divided into strata, and then random samples are drawn from each stratum 6) State whether true or false: Statement: Sampling error occurs when the sample is representative of the population True False No, the answer is incorrect. Score: 0 Accepted Answers: False 7) Which of the following is a type of sampling distribution? Sampling distribution of sample median. Sampling distribution of sample mode. Sampling distribution of sample proportion. No, the answer is incorrect. Score: 0 Accepted Answers: Sampling distribution of sample proportion. 8) If customers at petrol pump arrive at an average of 4 customers in 2 minutes. What is the probability of exactly 5 customers arriving in the 6-minute interval? 0.0256	1 point
The population is first divided into strata, and then random samples are drawn from each stratum 6) State whether true or false: Statement: Sampling error occurs when the sample is representative of the population True False No, the answer is incorrect. Score: 0 Accepted Answers: False 7) Which of the following is a type of sampling distribution? Sampling distribution of sample median. Sampling distribution of sample standard deviation. Sampling distribution of sample proportion. No, the answer is incorrect. Score: 0 Accepted Answers: Sampling distribution of sample proportion. 8) If customers at petrol pump arrive at an average of 4 customers in 2 minutes. What is the probability of exactly 5 customers arriving in the 6-minute interval?	1 point
The population is first divided into strata, and then random samples are drawn from each stratum 6) State whether true or false: Statement: Sampling error occurs when the sample is representative of the population True False No, the answer is incorrect. Score: 0 Accepted Answers: False 7) Which of the following is a type of sampling distribution? Sampling distribution of sample median. Sampling distribution of sample standard deviation. Sampling distribution of sample mode. Sampling distribution of sample proportion. No, the answer is incorrect. Score: 0 Accepted Answers: Sampling distribution of sample proportion. 8) If customers at petrol pump arrive at an average of 4 customers in 2 minutes. What is the probability of exactly 5 customers arriving in the 6-minute interval? 0.0256 0.0128	1 point
The population is first divided into strata, and then random samples are drawn from each stratum 6) State whether true or false: Statement: Sampling error occurs when the sample is representative of the population True False No, the answer is incorrect. Score: 0 Accepted Answers: False 7) Which of the following is a type of sampling distribution? Sampling distribution of sample median. Sampling distribution of sample median. Sampling distribution of sample proportion. No, the answer is incorrect. Score: 0 Accepted Answers: Sampling distribution of sample proportion. No, the answer is incorrect. Score: 0 Accepted Answers: Sampling distribution of sample proportion. 8) If customers at petrol pump arrive at an average of 4 customers in 2 minutes. What is the probability of exactly 5 customers arriving in the 6-minute interval? 0.0256 0.0128 0.0088 None of the above	1 point
The population is first divided into strata, and then random samples are drawn from each stratum 6) State whether true or false: Statement: Sampling error occurs when the sample is representative of the population True False No, the answer is incorrect. Score: 0 Accepted Answers: False 7) Which of the following is a type of sampling distribution? Sampling distribution of sample median. Sampling distribution of sample standard deviation. Sampling distribution of sample proportion. No, the answer is incorrect. Score: 0 Accepted Answers: Sampling distribution of sample proportion. No, the answer is incorrect. Score: 0 Accepted Answers: Sampling distribution of sample proportion. 8) If customers at petrol pump arrive at an average of 4 customers in 2 minutes. What is the probability of exactly 5 customers arriving in the 6-minute interval? 0.0256 0.0128 0.0088 No, the answer is incorrect. Score: 0	1 point
The population is first divided into strata, and then random samples are drawn from each stratum 6) State whether true or false: Statement: Sampling error occurs when the sample is representative of the population True False No, the answer is incorrect. Score: 0 Accepted Answers: False 7) Which of the following is a type of sampling distribution? Sampling distribution of sample median. Sampling distribution of sample median. Sampling distribution of sample proportion. No, the answer is incorrect. Score: 0 Accepted Answers: Sampling distribution of sample proportion. No, the answer is incorrect. Score: 0 Accepted Answers: Sampling distribution of sample proportion. 8) If customers at petrol pump arrive at an average of 4 customers in 2 minutes. What is the probability of exactly 5 customers arriving in the 6-minute interval? 0.0256 0.0128 0.0088 None of the above	1 point
The population is first divided into strata, and then random samples are drawn from each stratum 6) State whether true or false: Statement: Sampling error occurs when the sample is representative of the population True False No, the answer is incorrect. Score: 0 Accepted Answers: False 7) Which of the following is a type of sampling distribution? Sampling distribution of sample median. Sampling distribution of sample median. Sampling distribution of sample proportion. No, the answer is incorrect. Score: 0 Accepted Answers: Sampling distribution of sample proportion. 8) If customers at petrol pump arrive at an average of 4 customers in 2 minutes. What is the probability of exactly 5 customers arriving in the 6-minute interval? 0.0256 0.0128 0.0088 None of the above No, the answer is incorrect. Score: 0 Accepted Answers: O128	1 point
The population is first divided into strata, and then random samples are drawn from each stratum 6) State whether true or false: Statement: Sampling error occurs when the sample is representative of the population True False No, the answer is incorrect. Score: 0 Accepted Answers: False 7) Which of the following is a type of sampling distribution? Sampling distribution of sample median. Sampling distribution of sample standard deviation. Sampling distribution of sample proportion. No, the answer is incorrect. Score: 0 Accepted Answers: Sampling distribution of sample proportion. 8) If customers at petrol pump arrive at an average of 4 customers in 2 minutes. What is the probability of exactly 5 customers arriving in the 6-minute interval? 0.0256 0.0128 0.0088 None of the above No, the answer is incorrect. Score: 0 Accepted Answers:	1 point
The population is first divided into strata, and then random samples are drawn from each stratum 6) State whether true or false: Statement: Sampling error occurs when the sample is representative of the population True False No, the answer is incorrect. Score: 0 Accepted Answers: False 7) Which of the following is a type of sampling distribution? Sampling distribution of sample median. Sampling distribution of sample mode. Sampling distribution of sample proportion. No, the answer is incorrect. Score: 0 Accepted Answers: Sampling distribution of sample proportion. 8) If customers at petrol pump arrive at an average of 4 customers in 2 minutes. What is the probability of exactly 5 customers arriving in the 6-minute interval? 0.0256 0.0128 0.0088 None of the above No, the answer is incorrect. Score: 0 Accepted Answers: 0.0128 9) What is the probability of scoring 80 marks out of 100 in a class test when the average marks is 45 and the standard deviation is 15, Assume marks	1 point
The population is first divided into strata, and then random samples are drawn from each stratum 6) State whether true or false: Statement: Sampling error occurs when the sample is representative of the population True False No, the answer is incorrect. Score: 0 Accepted Answers: False 7) Which of the following is a type of sampling distribution? Sampling distribution of sample median. Sampling distribution of sample median. Sampling distribution of sample proportion. No, the answer is incorrect. Score: 0 Accepted Answers: Sampling distribution of sample proportion. No, the answer is incorrect. Score: 0 Accepted Answers: 0.0128 0.0088 None of the above No, the answer is incorrect. Score: 0 No, the answe	1 point
The population is first divided into strata, and then random samples are drawn from each stratum 6) State whether true or falsa: Statement: Sampling error occurs when the sample is representative of the population True Falsa No, the answer is incorrect. Score: 0 Accepted Answers: False 7) Which of the following is a type of sampling distribution? Sampling distribution of sample median. Sampling distribution of sample standard deviation. Sampling distribution of sample proportion. No, the answer is incorrect. Score: 0 Accepted Answers: Sampling distribution of sample proportion. 8) If customers at petrol pump arrive at an average of 4 customers in 2 minutes. What is the probability of exactly 5 customers arriving in the 6-minute interval? 0.0256 0.0128 0.0088 None of the above No, the answer is incorrect. Score: 0 Accepted Answers: Core: 0 Accepted Answers:	1 point
The population is first divided into strata, and then random samples are drawn from each stratum 6) State whether true or false: Statement: Sampling error occurs when the sample is representative of the population True False No, the answer is incorrect. Sorce: 30 Accepted Answers: False 7) Which of the following is a type of sampling distribution? Sampling distribution of sample median. Sampling distribution of sample median. Sampling distribution of sample proportion. No, the answer is incorrect. Sorce: 30 Accepted Answers: Sampling distribution of sample proportion. No, the answer is incorrect. Sorce: 30 Accepted Answers: Sampling distribution of sample proportion. 8) If customers at petrol pump arrive at an average of 4 customers in 2 minutes. What is the probability of exactly 5 customers arriving in the 6-minute interval? 0.0256 0.0128 0.0088 None of the above No, the answer is incorrect. Score: 0 Accepted Answers: 0.0128 9) What is the probability of scoring 80 marks out of 100 in a class test when the average marks is 45 and the standard deviation is 15. Assume marks to be normally distributed. 0.02 0.005 0.001	1 point
The population is first divided into strata, and then random samples are drawn from each stratum (5) State whether true or false: Statement: Sampling error occurs when the sample is representative of the population True False No, the answer is incorrect. Score: No, the answer is incorrect. Score: 3 Accepted Answers: False 7) Which of the following is a type of sampling distribution? Sampling distribution of sample median. Sampling distribution of sample proportion. Sampling distribution of sample proportion. No, the answer is incorrect. Score: Accepted Answers: Sampling distribution of sample proportion. 8) If customers at petrol pump arrive at an average of 4 customers in 2 minutes. What is the probability of exactly 5 customers arriving in the 6-minute interval? 0.0256 0.0128 0.0088 None of the above No, the answer is incorrect. Score: No, the answer is incorrect. Score: 0 No, the answer is incorrect. Score: 0 No, the answer is incorrect. Score: 0 0.0269 None of the above No, the answer is incorrect. Score: 0 0.027 0.0080 No in the answer is incorrect. Score: 0 0.0280 No in the answer is incorrect. Score: 0 0.029 0.005 0.010	1 point
The population is first divided into strata, and then random samples are drawn from each stratum (6) State whether true or false: Statement: Sampling error occurs when the sample is representative of the population True False No, the answer is incorrect. Score: Accepted Answers: False 7) Which of the following is a type of sampling distribution? Sampling distribution of sample median. Sampling distribution of sample median. Sampling distribution of sample mode. Sampling distribution of sample proportion. No, the answer is incorrect. Score: O Accepted Answers: Accepted Answers: 8) If customers at petrol pump arrive at an average of 4 customers in 2 minutes. What is the probability of exactly 5 customers arriving in the 6-minute interval? 0.0256 0.0128 0.0088 None of the above No, the answer is incorrect. Score: O 4.0050 0.01 0.0256 0.010 0.0256 0.010 0.005 0.01 0.005 0.01 0.005 0.01 0.005 0.01 0.006 0.010 0.006 0.010 0.006 0.010 0.007 0.007 0.007 0.007 0.008 0.007 0.008 0.008 0.006 0.007 0.007 0.007 0.007 0.008 0.008 0.008 0.008 0.008 0.009	1 point
The population is first divided into strata, and then random samples are drawn from each stratum (5) State whether true or false: Statement: Sampling error occurs when the sample is representative of the population True False No, the answer is incorrect. Score. O Accepted Answers: False 7) Which of the following is a type of sampling distribution? Sampling distribution of sample median. Sampling distribution of sample median. Sampling distribution of sample proportion. Sampling distribution of sample proportion. No, the answer is incorrect. Score. O Accepted Answers: Sampling distribution of sample proportion. (5) If customers at petrol pump arrive at an average of 4 customers in 2 minutes. What is the probability of exactly 5 customers arriving in the 6-minute interval? 0.0256 0.0058 None of the above No, the answer is incorrect. Score. O Accepted Answers: 0.0128 9) What is the probability of scoring 80 marks out of 100 in a class test when the average marks is 45 and the standard deviation is 15. Assume marks to be normally distributed. 0.02 0.005 0.001 None of the above No, the answer is incorrect. Score. O Accepted Answers: None of the above	1 point
The population is first divided into strata, and then random samples are drawn from each stratum (6) State whether true or false: Statement: Sampling error occurs when the sample is representative of the population True False No, the answer is incorrect. Score: Accepted Answers: False 7) Which of the following is a type of sampling distribution? Sampling distribution of sample median. Sampling distribution of sample median. Sampling distribution of sample mode. Sampling distribution of sample proportion. No, the answer is incorrect. Score: O Accepted Answers: Accepted Answers: 8) If customers at petrol pump arrive at an average of 4 customers in 2 minutes. What is the probability of exactly 5 customers arriving in the 6-minute interval? 0.0256 0.0128 0.0088 None of the above No, the answer is incorrect. Score: O 4.0050 0.01 0.0256 0.010 0.0256 0.010 0.005 0.01 0.005 0.01 0.005 0.01 0.005 0.01 0.006 0.010 0.006 0.010 0.006 0.010 0.007 0.007 0.007 0.007 0.008 0.007 0.008 0.008 0.006 0.007 0.007 0.007 0.007 0.008 0.008 0.008 0.008 0.008 0.009	1 point
The population is first divided into strata, and then random samples are drawn from each stratum State whether true or false: Statement: Sampling error occurs when the sample is representative of the population True False No, the answer is incorrect. Score: 0 Sore: 0 Sampling distribution of sample median. Sampling distribution of sample median. Sampling distribution of sample median. Sampling distribution of sample mode. Sampling distribution of sample proportion. No, the answer is incorrect. Score: 0 Accepted Answers: Sampling distribution of sample proportion. Is if customers at petrol pump arrive at an average of 4 customers in 2 minutes. What is the probability of exactly 5 customers arriving in the 6-minute interval? 0.0256 0.0128 0.0088 No, the answer is incorrect. Score: 0 Accepted Answers: 0.0269 0.0088 No of the above No, the answer is incorrect. Score: 0 Accepted Answers: 0.0260 0.010 None of the above No, the answer is incorrect. Score: 0 Accepted Answers: 0.026 0.010 None of the above No, the answer is incorrect. Score: 0 Accepted Answers: 0.026 0.010 None of the above No, the answer is incorrect. Score: 0 Accepted Answers: 0.026 0.010 None of the above No, the answer is incorrect. Score: 0 Accepted Answers: 0.010 0.010 0.020 0.005 0.010 0.010 0.010 0.020 0.005 0.010 0.010 0.020 0.005 0.010 0.010 0.020 0.005 0.010 0.010 0.020 0.020 0.020 0.020 0.005 0.010 0.010 0.020	1 point