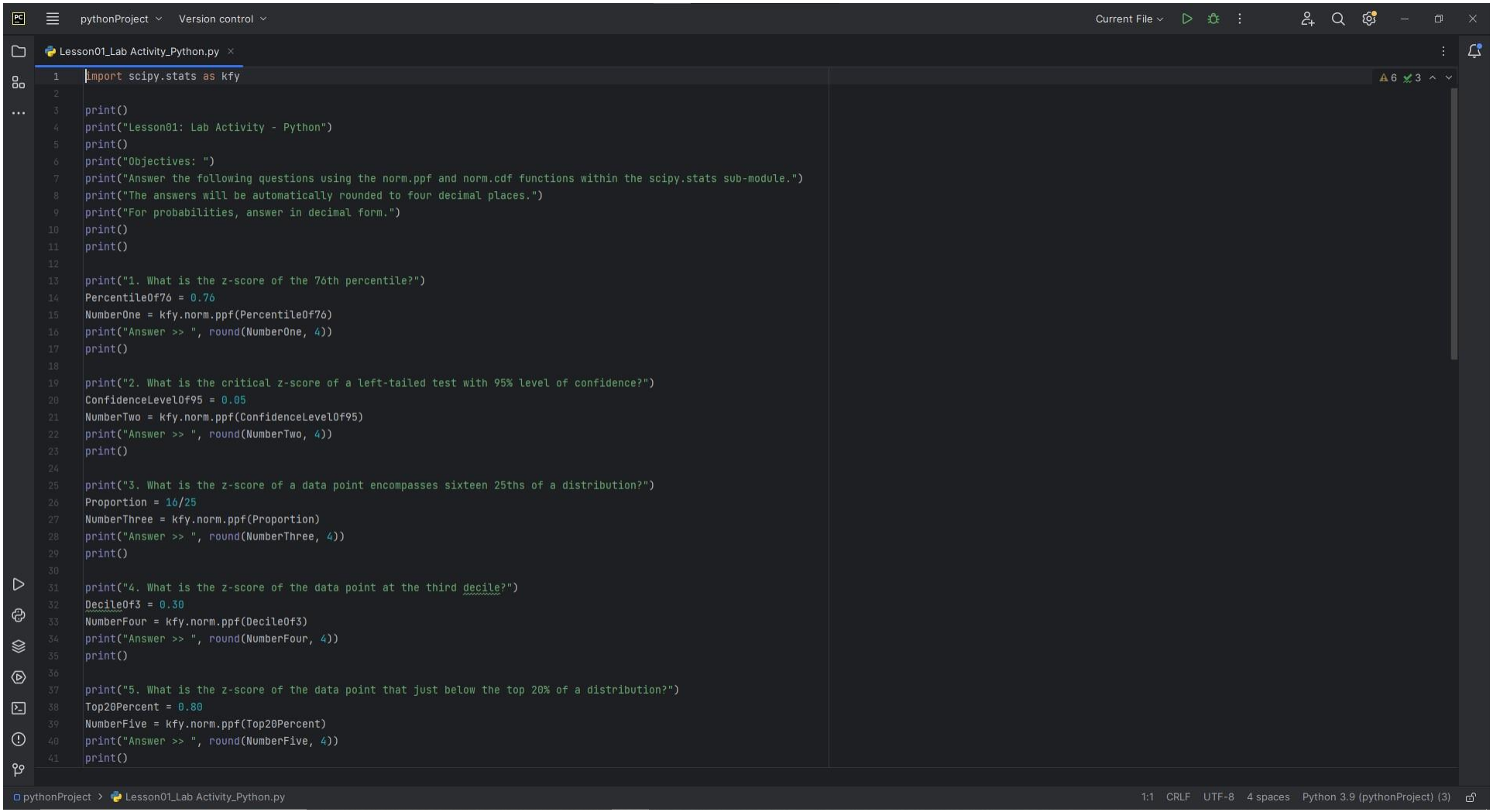
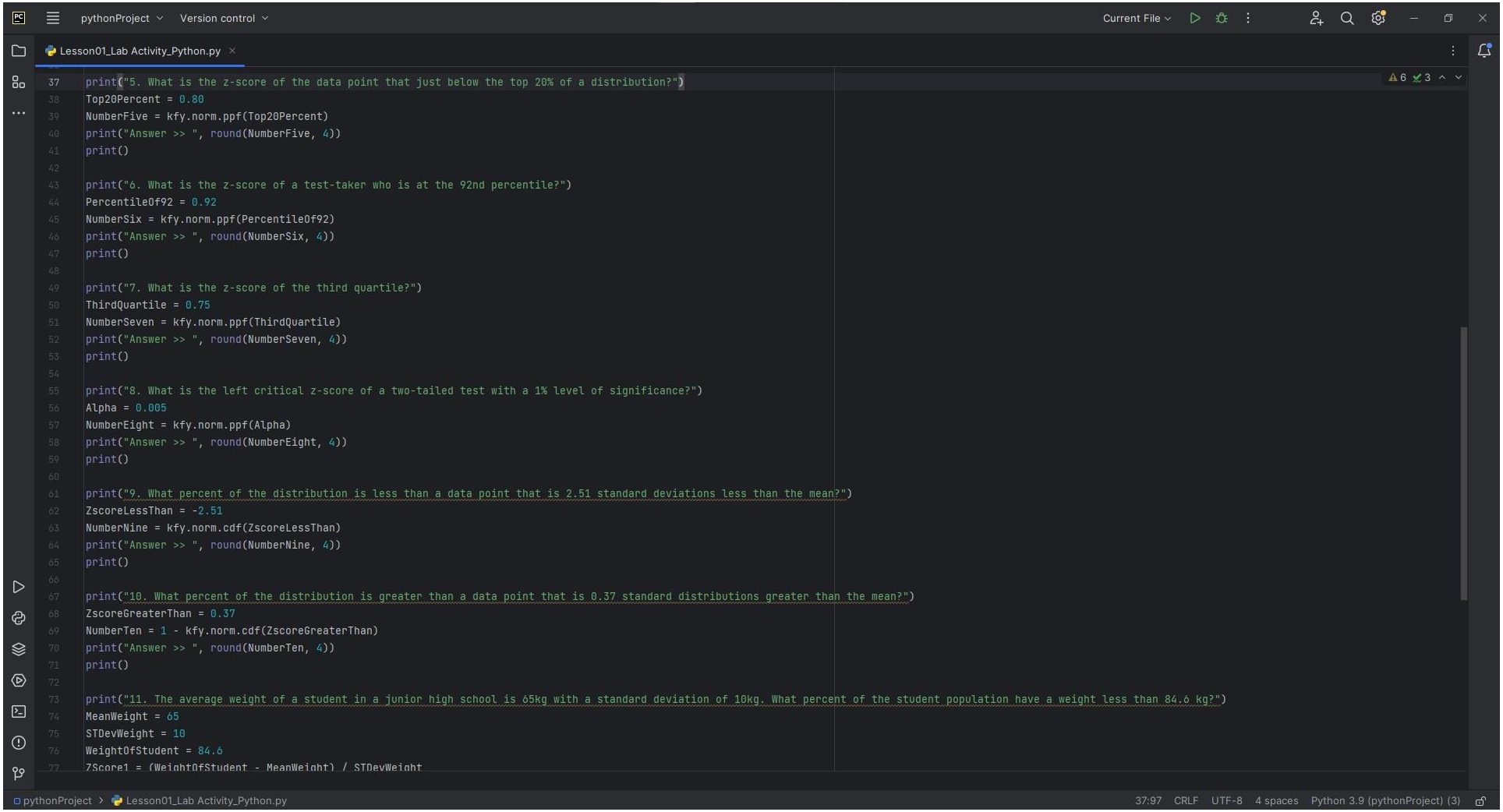
NAME: Abenes, Enrico O. Date: May 21, 2024

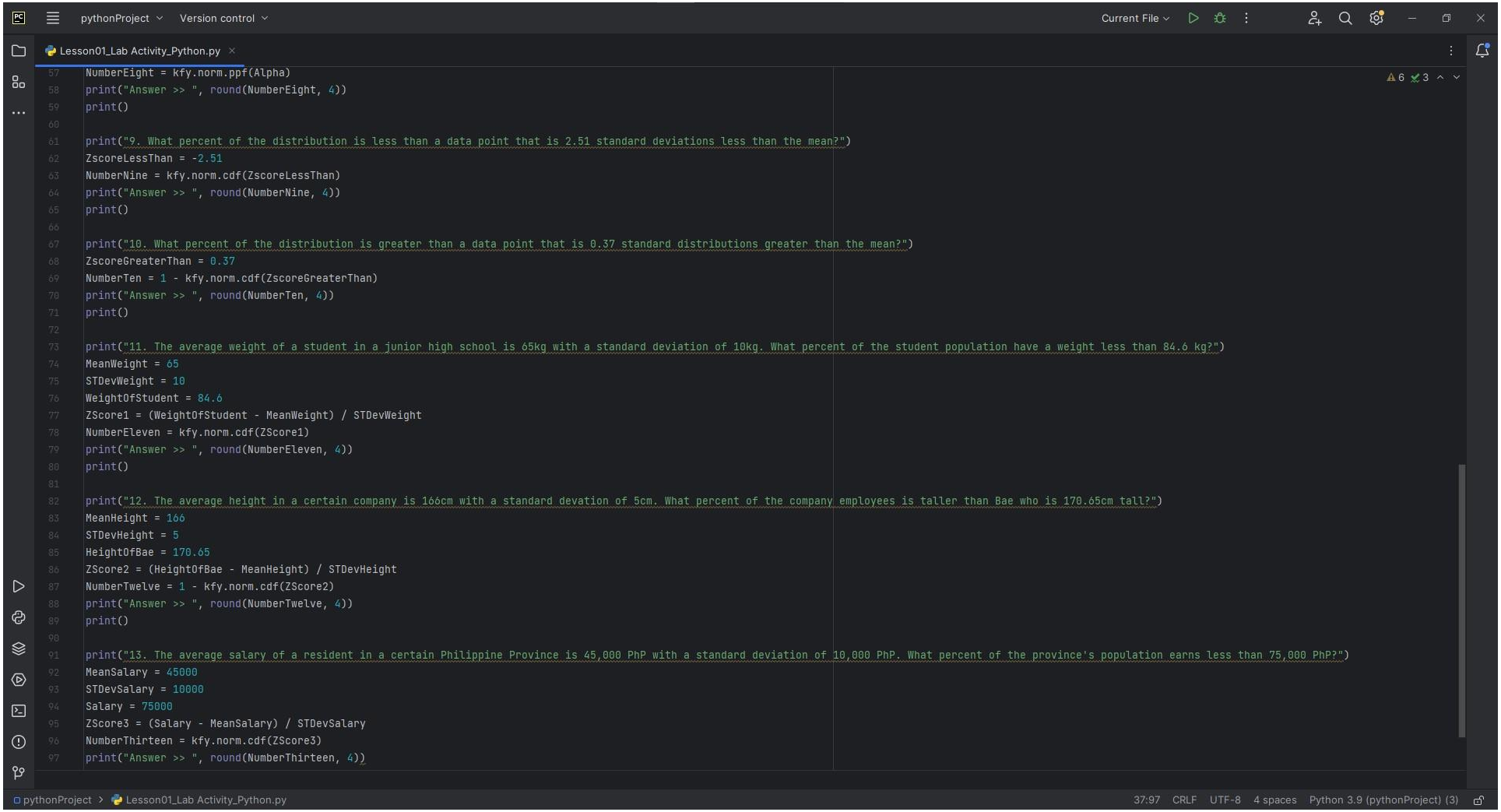
SUBJECT & SCHEDULE: CC12 – 1H (10:10am – 12:50pm TThS)

LESSON01: Lab Activity – Python

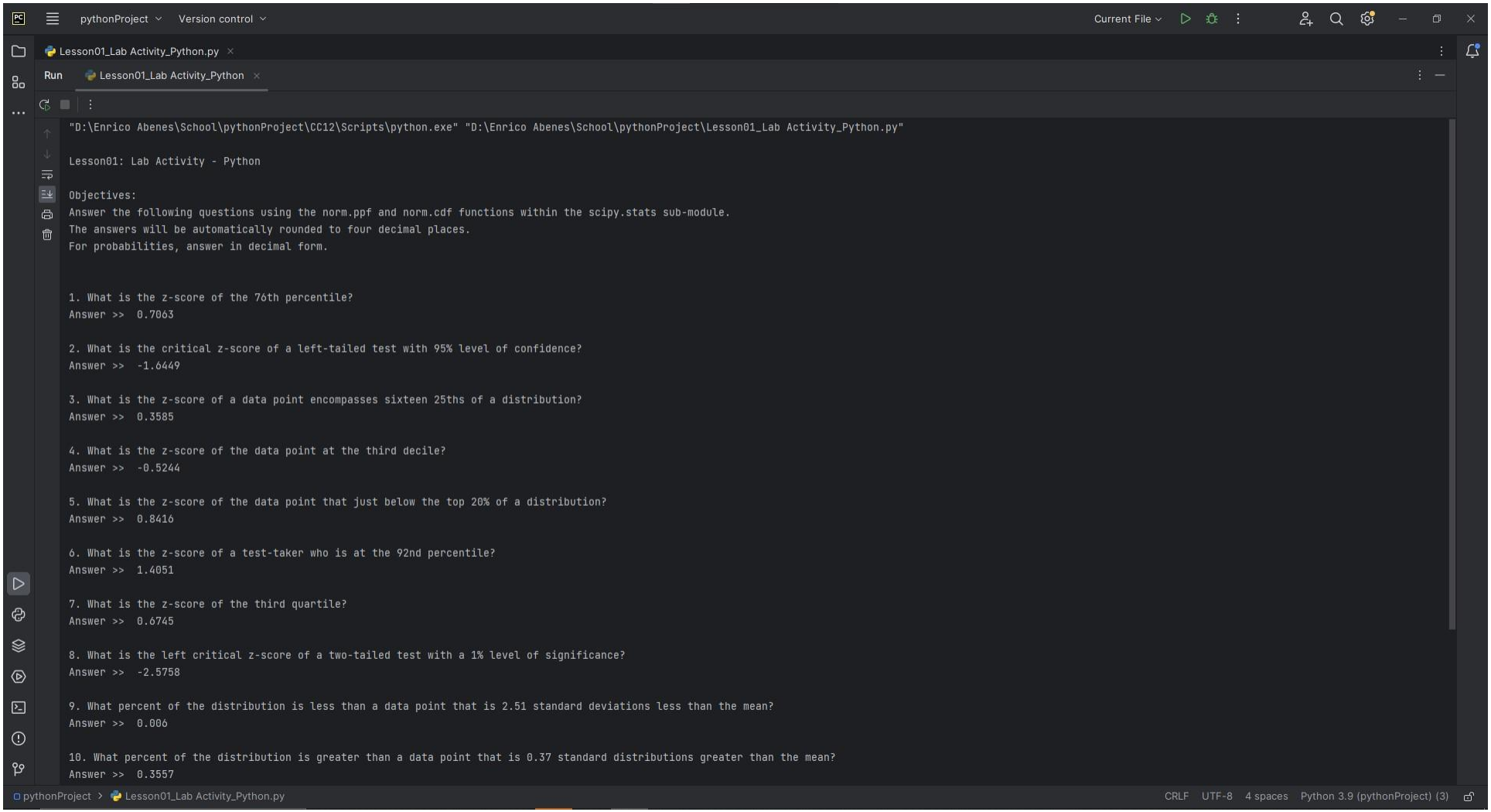
The Code:

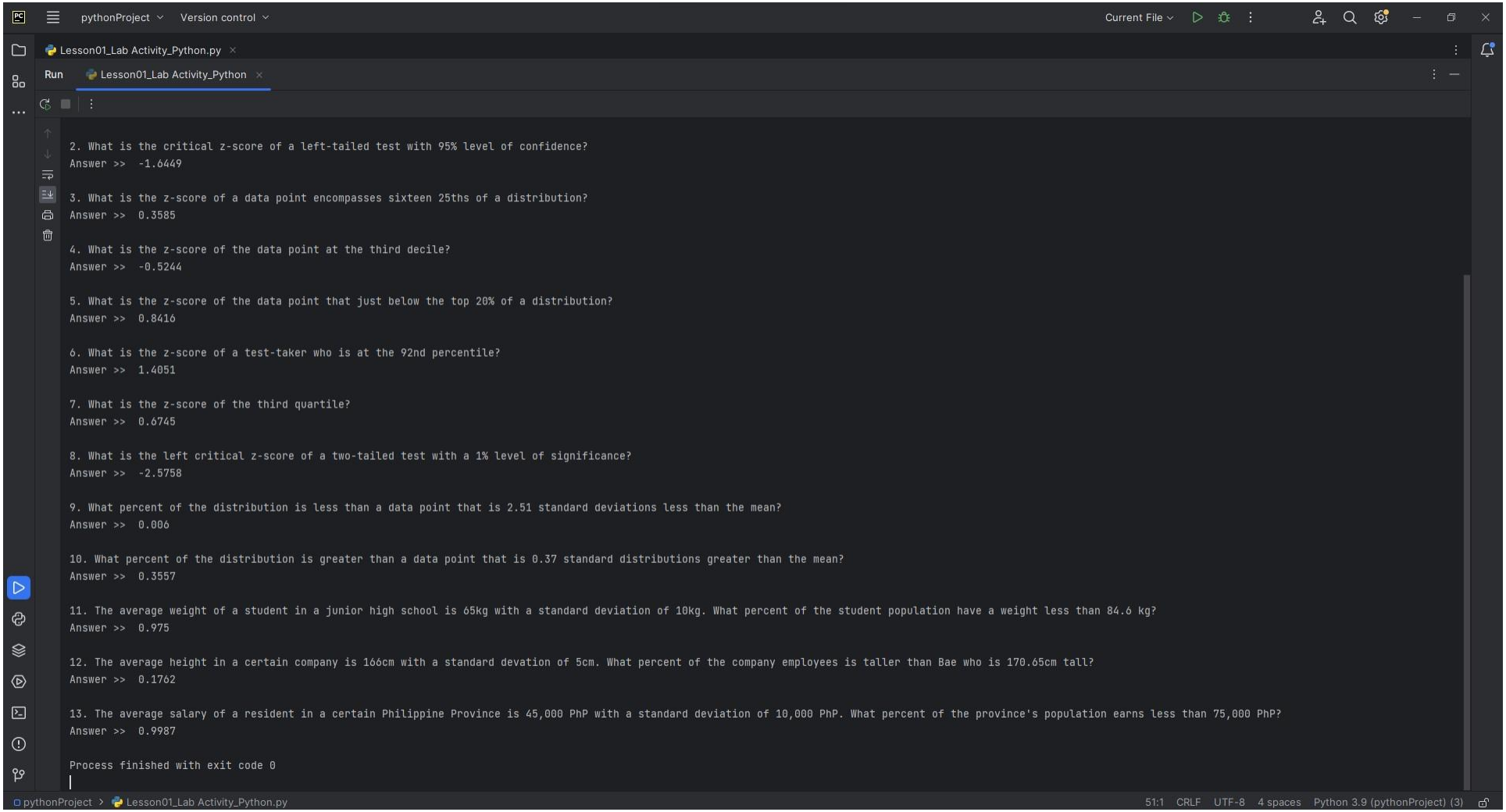



pythonProject
Version control
Current File
Lesson01_Lab Activity_Python.py
print("5. What is the z-score of the data point that just below the top 20% of a distribution?")
Top20Percent = 0.80
NumberFive = kfy.norm.ppf(Top20Percent)
print("Answer >> ", round(NumberFive, 4))
print()
print("6. What is the z-score of a test-taker who is at the 92nd percentile?")
PercentileOf92 = 0.92
NumberSix = kfy.norm.ppf(PercentileOf92)
print("Answer >> ", round(NumberSix, 4))
print()
print("7. What is the z-score of the third quartile?")
ThirdQuartile = 0.75
NumberSeven = kfy.norm.ppf(ThirdQuartile)
print("Answer >> ", round(NumberSeven, 4))
print()
print("8. What is the left critical z-score of a two-tailed test with a 1% level of significance?")
Alpha = 0.005
NumberEight = kfy.norm.ppf(Alpha)
print("Answer >> ", round(NumberEight, 4))
print()
print("9. What percent of the distribution is less than a data point that is 2.51 standard deviations less than the mean?")
ZscoreLessThan = -2.51
NumberNine = kfy.norm.cdf(ZscoreLessThan)
print("Answer >> ", round(NumberNine, 4))
print()
print("10. What percent of the distribution is greater than a data point that is 0.37 standard distributions greater than the mean?")
ZscoreGreaterThan = 0.37
NumberTen = 1 - kfy.norm.cdf(ZscoreGreaterThan)
print("Answer >> ", round(NumberTen, 4))
print()
print("11. The average weight of a student in a junior high school is 65kg with a standard deviation of 10kg. What percent of the student population have a weight less than 84.6 kg?")
MeanWeight = 65
STDevWeight = 10
WeightOfStudent = 84.6
ZScore1 = (WeightOfStudent - MeanWeight) / STDevWeight
pythonProject
Lesson01_Lab Activity_Python.py
37:97
CRLF
UTF-8
4 spaces
Python 3.9 (pythonProject) (3)


pythonProject
Version control
Current File
Lesson01_Lab Activity_Python.py
NumberEight = kfy.norm.ppf(Alpha)
print("Answer >> ", round(NumberEight, 4))
print()
print("9. What percent of the distribution is less than a data point that is 2.51 standard deviations less than the mean?")
ZscoreLessThan = -2.51
NumberNine = kfy.norm.cdf(ZscoreLessThan)
print("Answer >> ", round(NumberNine, 4))
print()
print("10. What percent of the distribution is greater than a data point that is 0.37 standard distributions greater than the mean?")
ZscoreGreaterThan = 0.37
NumberTen = 1 - kfy.norm.cdf(ZscoreGreaterThan)
print("Answer >> ", round(NumberTen, 4))
print()
print("11. The average weight of a student in a junior high school is 65kg with a standard deviation of 10kg. What percent of the student population have a weight less than 84.6 kg?")
MeanWeight = 65
STDevWeight = 10
WeightOfStudent = 84.6
ZScore1 = (WeightOfStudent - MeanWeight) / STDevWeight
NumberEleven = kfy.norm.cdf(ZScore1)
print("Answer >> ", round(NumberEleven, 4))
print()
print("12. The average height in a certain company is 166cm with a standard devation of 5cm. What percent of the company employees is taller than Bae who is 170.65cm tall?")
MeanHeight = 166
STDevHeight = 5
HeightOfBae = 170.65
ZScore2 = (HeightOfBae - MeanHeight) / STDevHeight
NumberTwelve = 1 - kfy.norm.cdf(ZScore2)
print("Answer >> ", round(NumberTwelve, 4))
print()
print("13. The average salary of a resident in a certain Philippine Province is 45,000 PhP with a standard deviation of 10,000 PhP. What percent of the province's population earns less than 75,000 PhP?")
MeanSalary = 45000
STDevSalary = 10000
Salary = 75000
ZScore3 = (Salary - MeanSalary) / STDevSalary
NumberThirteen = kfy.norm.cdf(ZScore3)
print("Answer >> ", round(NumberThirteen, 4))
pythonProject
Lesson01_Lab Activity_Python.py
37:97
CRLF
UTF-8
4 spaces
Python 3.9 (pythonProject) (3)

The Output:


pythonProject
Version control
Current File
Lesson01_Lab Activity_Python.py
Run
Lesson01_Lab Activity_Python
"D:\Enrico Abenes\School\pythonProject\CC12\Scripts\python.exe" "D:\Enrico Abenes\School\pythonProject\Lesson01_Lab Activity_Python.py"
Lesson01: Lab Activity - Python
Objectives:
Answer the following questions using the norm.ppf and norm.cdf functions within the scipy.stats sub-module.
The answers will be automatically rounded to four decimal places.
For probabilities, answer in decimal form.
1. What is the z-score of the 76th percentile?
Answer >> 0.7063
2. What is the critical z-score of a left-tailed test with 95% level of confidence?
Answer >> -1.6449
3. What is the z-score of a data point encompasses sixteen 25ths of a distribution?
Answer >> 0.3585
4. What is the z-score of the data point at the third decile?
Answer >> -0.5244
5. What is the z-score of the data point that just below the top 20% of a distribution?
Answer >> 0.8416
6. What is the z-score of a test-taker who is at the 92nd percentile?
Answer >> 1.4051
7. What is the z-score of the third quartile?
Answer >> 0.6745
8. What is the left critical z-score of a two-tailed test with a 1% level of significance?
Answer >> -2.5758
9. What percent of the distribution is less than a data point that is 2.51 standard deviations less than the mean?
Answer >> 0.006
10. What percent of the distribution is greater than a data point that is 0.37 standard distributions greater than the mean?
Answer >> 0.3557
pythonProject > Lesson01_Lab Activity_Python.py
CRLF UTF-8 4 spaces Python 3.9 (pythonProject) (3)


pythonProject
Version control
Current File
Lesson01_Lab Activity_Python.py
Run
Lesson01_Lab Activity_Python
2. What is the critical z-score of a left-tailed test with 95% level of confidence?
Answer >> -1.6449
3. What is the z-score of a data point encompasses sixteen 25ths of a distribution?
Answer >> 0.3585
4. What is the z-score of the data point at the third decile?
Answer >> -0.5244
5. What is the z-score of the data point that just below the top 20% of a distribution?
Answer >> 0.8416
6. What is the z-score of a test-taker who is at the 92nd percentile?
Answer >> 1.4051
7. What is the z-score of the third quartile?
Answer >> 0.6745
8. What is the left critical z-score of a two-tailed test with a 1% level of significance?
Answer >> -2.5758
9. What percent of the distribution is less than a data point that is 2.51 standard deviations less than the mean?
Answer >> 0.006
10. What percent of the distribution is greater than a data point that is 0.37 standard distributions greater than the mean?
Answer >> 0.3557
11. The average weight of a student in a junior high school is 65kg with a standard deviation of 10kg. What percent of the student population have a weight less than 84.6 kg?
Answer >> 0.975
12. The average height in a certain company is 166cm with a standard devation of 5cm. What percent of the company employees is taller than Bae who is 170.65cm tall?
Answer >> 0.1762
13. The average salary of a resident in a certain Philippine Province is 45,000 PhP with a standard deviation of 10,000 PhP. What percent of the province's population earns less than 75,000 PhP?
Answer >> 0.9987
Process finished with exit code 0
pythonProject > Lesson01_Lab Activity_Python.py
51:1 CRLF UTF-8 4 spaces Python 3.9 (pythonProject) (3)