Lab 2:

1. Define in detail what the result must be (Output)

“Please enter the diameter of your pizza: 15

A 15" pizza will yield 10 slices.

Each slice will have an area of 17.67 square inches.

Press Enter to end this application...”

” Please enter the diameter of your pizza: 7.5

ENTRY ERROR

Pizza must have a diameter in the range of 8" to 24" inclusive!

Please try again.

Press Enter to end this application...”

1. Determine what data is needed to & How to get it (Input)

* Must prompt user for diameter of pizza in inches
* Must prompt user for diameter of pizza in inches, if they do not enter numeric value
* Must prompt user for diameter of pizza in inches, if the input is numeric but is outside of range
* Python’s Math formula calculations
* Pizza diameter in inches, slices and whole number, area of each slice as a real rounded number to two decimal spots.
* Area of a Pizza = A=3.14 r2
* 3.14(r2)/number of slices in a pizza = Area of a slice of pizza

• Diameters of 8” to < 12” cut in six slices.

• Diameters of 12” to < 14” cut in 8 slices.

• Diameters of 14” to < 16” cut in 10 slices.

• Diameters of 16” to < 20” cut in 12 slices.

• Diameters of 20” to 24” cut in 16 slices.

1. List the steps needed in between (Process)

* Prompt user for diameter of pizza in inches
* Once input is numeric, use a compound condition test to check that the diameter of the pizza falls within the required range
* I must calculate the number of slices to cut within the pizza
* I must figure how to calculate the area of the pizza and each slice.
* The result must be displayed as a concatenated string with the original pizza diameter in inches, slices and whole number, area of each slice as a real rounded number to two decimal spots.
* I must prompt the user to press enter to end the application
* Ensure I do not use the Float data type

1. Write your Plan in Pseudo Code and/or a Flow Chart
2. Prompt the user to enter the Diameter of the Pizza in inches
3. If the user input is non-numeric?

* Must type an error message indicating the user’s input must be numeric

1. Once the user’s input is numeric and if it is less than 8 inches or more than 24 inches, Print an error message indicating that their input is out of the range of the pizza size
2. If user’s input falls between the diameters of one of the 5 sizes of pizza it is considered as a valid entry
3. Determine the number of slices to cut the pizza in by using if/else statements

* If the diameters of the pizza are between 8” to < 12” cut in six slices
* If the diameters of the pizza are between 12” to < 14” cut in 8 slices
* If the diameters of the pizza are between 14” to < 16” cut in 10 slices.
* If the diameters of the pizza are between 16” to < 20” cut in 12 slices.
* If the diameters of the pizza are between 20” to 24” cut in 16 slices

1. Calculate the area of the slice of the pizza and the pizza depending upon what the user has inputted into the application.
2. Produce the result as a concatenated string with information including:

* original pizza diameter in inches, slice in inches
* number of slices as a whole number
* the area of each slice as a real number rounded to two decimal places

1. Prompt user to Press enter to end application
2. Test your Plan for Logical Errors

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| Input | Result | Notes |
| 7” diameter Pizza | “Error: inches of pizza diameter is considered outside of Range” | Outside of Range |
| 8” Diameter Pizza | The user’s pizza is 8”, 6 slices, A = 50.26” whole pizza | Extra Small Pizza |
| 12” Diameter Pizza | The user’s Pizza is 12”, 8 Slices, A = 452.39” | Small Pizza |
| 15.99” Diameter Pizza | The user’s pizza is 15.99”, 10 Slices, A = 803.24” | Medium Pizza |
| 18” Diameter Pizza | The user’s Pizza is 18”, 12 slices, A = 1 ,017.88” | Large Pizza |
| 23” Diameter Pizza | The user’s Pizza is 23”, 16 Slices, A = 1, 661.90” | Extra Large Pizza |
| 25” Diameter Pizza | “Error: inches of pizza diameter is considered outside of Range” | Outside of Range |
| Five inch diameter pizza | Error: Input must be in numbers only | Text |