Python_general_dataidea exercise

April 29, 2024

[ ]:
```
# # # what are the fundamental  components of a Python program, and how does␣
 ↪Python execute code?
# # 1) expressions, are legal combination of symbols that represents a value
# # 2)comments, are additional readable information to give mor insights about␣
 ↪the codes
# # 3)statements, are insbtructions that are executed by the python interpreter
# # 4) Function, are codes that have a name and can be reused to execute a␣
 ↪specific task
# # 5)blocks and indentions, these are a group of statements
# # 6)operators, are symbols or keywords that perform mathematical, logicalor␣
 ↪comparison operations on data
# # # 7)variables, are used to store data on a python program
# # 8)datatypes, are particuar kinds of data items as defined by the values␣
 ↪they can take
# # 9)control structures, are used to control the flow of a python programeg␣
 ↪the if statments, and the lops


# # # how python execute its codes
# # python interpreter reads and executes the codes line by line

# #Explain the differences between mutable and immutable data types in Python␣
 ↪and provide
# #examples of each

# #Mutable data types are those whose values can be modified after they are␣
 ↪created.
# #examples are dictionaries, sets, lists

# #Immutable data types are those whose values cannot be modified after they␣
 ↪are created.
# #strings, tuples

# # #Discuss the importance of operator precedence in Python and how it impacts␣
 ↪the evaluation of expressions.
# # operation precedence refers to the rules that determine the order in which␣
 ↪operators are evaluated in an expression
```

```
# # it follows PEMDAS which stands for; parentheses,exponents,␣
 ↪multiplications,division, addition and subtraction

# #Compare and contrast the usage of lists, tuples, sets, and dictionaries in␣
 ↪Python, highlighting their key characteristics
# #and when to use each.
# lists are oordered mutable containers, they are created using square brackets
# use lists when you need duplicate objects in your container
# sets are unordered mutable containers, they are created using curly brackets
# sets do not allow duplicate elements, each element must be unique
# # Use sets when you need to store a collection of unique items and don't care␣
 ↪about the order of elements
# Tuples are ordered immutable collections of objects.they are created using␣
 ↪parentheses
# they are used when you need ordered collection of items that do not change␣
 ↪over time
# Dictionaries are ordered mutable containers created using curly brackets
# dictionary objects are presented in a pair of a key and the value,its values␣
 ↪can be duplicated
# its values are accessed using keys ratherthan indexes
# use a dictionary when you want to store data as key value pairs
```

[ ]:
```
def NumberOfPizza(numberOfSlices,NumberOfGuests):
    TotalNumberOfSlices = numberOfSlices * NumberOfGuests
    TotalNumberOfPizza = TotalNumberOfSlices/8
    return TotalNumberOfPizza

numberOfSlices =int(input('Enter number of slices:'))
NumberOfGuests = int(input('Enter number of guests:'))

total_pizza = NumberOfPizza(numberOfSlices, NumberOfGuests)
print('Number of pizzas needed:', total_pizza)
```

```
Enter number of slices:4
Enter number of guests:8
Number of pizzas needed: 4.0
```

[ ]:
```

```