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PES2UG22EC051
7$^{TH}$ SEM

Python for Data Science

MCQ

1. Which of the following object does not support indexing?
   tuple
   list
   dictionary
   set

   Ans:set

2.Which of the following is the correct approach to fill missing values in case of categorical variable?

   Mean

   median

   Mode

   None of the above

Ans:mode

Descriptive Question

1. Differentiate between List, Tuple, and Dictionary in Python with examples.
Answer:
List    Ordered, mutable collection.
l = [10,20,30]
l.append(40)
Tuple    Ordered, immutable collection.
t = (10,20,30) # t[0] = 50    Error
Dictionary    Key-value pairs.
d = {"Car":"Toyota", "Price":20000}
Difference: Lists & tuples store elements sequentially, while dictionaries store data as mappings. Lists are mutable, tuples are immutable.

2. Explain Python's arithmetic and logical operators with examples.
Answer:
Arithmetic Operators: Perform mathematical operations.
+ (addition)    5+3=8
- (subtraction)    10-4=6
* (multiplication)    2*3=6
/ (division)    9/2=4.5
// (floor division)    9//2=4

% (modulus)     10%3=1

** (power)      2**3=8

Logical Operators: Combine conditional statements.

and     returns True if both conditions are True

(5>2 and 3<4)  # True

or     returns True if at least one condition is True

(5>10 or 3<4)  # True

not     reverses the condition

not(5>2)  # False

 Arithmetic operators perform calculations, while logical operators help in decision-making.