

EXP-13

Aim: To execute pandas program to detect missing values of a given dataframe

pseudo code:

- 1. import libraries pandas
- 2. create a dataframe
- 3. Detect missing values: we use `isnull()` function to identify missing values
- 4. Display results

sample input:

```
df = pd.DataFrame(np.random.randn(10, 4), columns =  
                  ['A', 'B', 'C', 'D'])
```

sample output:

	A	B	C	D
0	False	True	False	False
1	False	False	True	False
2	True	False	False	False
...
9	False	False	False	True

Result:

This code has been successfully executed and got the output

```

import pandas as pd
import numpy as np

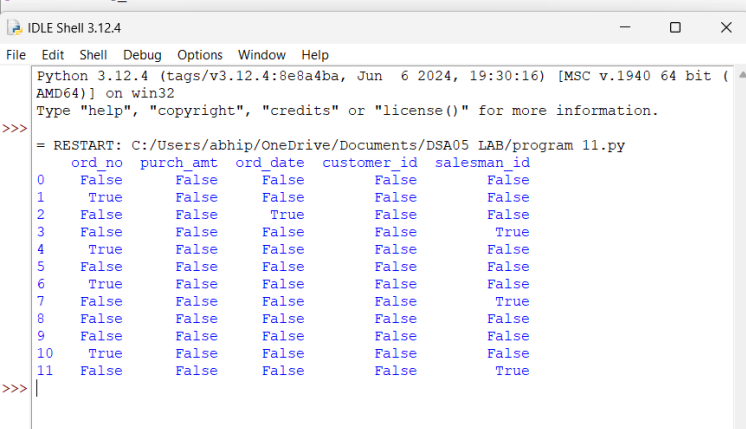
# Sample DataFrame based on your screenshot
data = {
    'ord_no': [70001, np.nan, 70002, 70004, np.nan, 70005, np.nan, 70010, 70003, 70012, np.nan, 70013],
    'purch_amt': [150.5, 270.65, 65.26, 110.5, 948.5, 2400.6, 5760.0, 1983.43, 2480.4, 250.45, 75.29, 3045.6],
    'ord_date': ['2012-10-05', '2012-09-10', np.nan, '2012-08-17', '2012-09-10', '2012-07-27', '2012-09-10', '2012-10-10', '2012-10-10', '2012-06-27', '2012-08-17', '2012-04-25'],
    'customer_id': [3002, 3001, 3001, 3003, 3002, 3001, 3001, 3003, 3003, 3002, 3001, 3001],
    'salesman_id': [5002, 5003, 5001, np.nan, 5002, 5001, 5001, np.nan, 5003, 5003, 5003, np.nan]
}

df = pd.DataFrame(data)

# Detect missing values
missing_values = df.isna()

# Display the DataFrame of True/False values indicating missing data
print(missing_values)

```



The screenshot shows the IDLE Shell 3.12.4 window. The output of the `print(missing_values)` command is displayed as a DataFrame with 12 rows (indexed 0 to 11) and 5 columns: `ord_no`, `purch_amt`, `ord_date`, `customer_id`, and `salesman_id`. Each cell contains a `True` or `False` value indicating the presence of missing data.

	ord_no	purch_amt	ord_date	customer_id	salesman_id
0	False	False	False	False	False
1	True	False	False	False	False
2	False	False	True	False	False
3	False	False	False	False	True
4	True	False	False	False	False
5	False	False	False	False	False
6	True	False	False	False	False
7	False	False	False	False	True
8	False	False	False	False	False
9	False	False	False	False	False
10	True	False	False	False	False
11	False	False	False	False	True