

Ex.No-5

Data Cleaning & Preparation (Excel file)**Aim**

To do the Data Cleaning and Preparation using Excel data.

Description:

Read the Excel file, do the data cleaning process and write the updated data set into excel file

1. Remove the white space using str.strip function
2. Fill the forward values for NaN using fillna(pad) method
3. Drop one particular column using drop function
4. Drop NaN rows using dropna function
5. Replace the values(s) using replace function
6. Extract the particular record based on the isin() function condition

PROGRAM:

```
import pandas as pd

pd.set_option('display.max_columns', 10)

print("Original data set from Excel file:\n")

df=pd.read_excel("d:\sample1.xlsx")

print(df)

f=df['NAME'].str.strip()

f.to_excel("D:\sample22.xlsx")

print("\nReplace value with Forward:\n")

k=df.fillna(method='pad')

print(k)

print("\nThe above updated data set will be stored in sample2.xlsx file....\n")

k.to_excel("d:\sample2.xlsx")

print("\nDrop one particular column and its values:\n")

k.drop(["TOTAL"],axis=1, inplace=True)

print(k)

print("\nThe above updated data set will be stored in sample3.xlsx file....\n")
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k.to_excel("d:\sample3.xlsx")

print("\nDrop NaN rows:\n")
df=pd.read_excel("d:\sample4.xlsx")
print(df)
x=df.dropna()
print(x)
print("\nThe above updated data set will be stored in sample5.xlsx file....\n")
x.to_excel("d:\sample5.xlsx")

print("\nReplace values:\n")
n=pd.read_excel("d:\sample3.xlsx")
print("Original data set:\n");
print(n)
y=n.replace({49:50})
print("\nUpdated dataset with replaced values: {49:50}\n")
print(y)
print("\nThe above updated data set will be stored in sample6.xlsx file....\n")
y.to_excel("d:\sample6.xlsx")

print("Original data set from Excel file:\n")
df=pd.read_excel("d:\sample1.xlsx")
print(df)

print("\nExtract the particular record based on the isin() function condition:\n")
new=df['ENGLISH'].isin([49])
print(df[new])

```

OUTPUT:

Original data set from Excel file:

	ROLL NO	NAME	ENGLISH	TAMIL	MATHS	SCIENCE	SOCIAL	TOTAL
0	101	DEEPA	50.0	67	50	67.0	50	284
1	102	DINESH	56.0	89	56	89.0	56	346
2	103	KAVIYA	80.0	80	80	80.0	80	400
3	104	RACHEAL	89.0	87	89	87.0	89	441
4	105	RAJAN	NaN	98	90	98.0	90	466
5	106	RAMYA	67.0	76	67	76.0	67	353
6	107	ROHAN	56.0	67	56	67.0	56	302
7	108	ROHINI	57.0	65	57	65.0	57	301
8	109	SANDHYA	58.0	56	58	56.0	58	286
9	110	SARANYA	49.0	45	49	NaN	49	237

ROLL NO	NAME	ENGLISH	TAMIL	MATHS	SCIENCE	SOCIAL	TOTAL
101	DEEPA	50	67	50	67	50	284
102	DINESH	56	89	56	89	56	346
103	KAVIYA	80	80	80	80	80	400
104	RACHEAL	89	87	89	87	89	441
105	RAJAN		98	90	98	90	466
106	RAMYA	67	76	67	76	67	353
107	ROHAN	56	67	56	67	56	302
108	ROHINI	57	65	57	65	57	301
109	SANDHYA	58	56	58	56	58	286
110	SARANYA	49	45	49		49	237

	NAME
0	DEEPA
1	DINESH
2	KAVIYA
3	RACHEAL
4	RAJAN
5	RAMYA
6	ROHAN
7	ROHINI
8	SANDHYA
9	SARANYA

Replace value with Forward:

	ROLL NO	NAME	ENGLISH	TAMIL	MATHS	SCIENCE	SOCIAL	TOTAL
0	101	DEEPA	50.0	67	50	67.0	50	284
1	102	DINESH	56.0	89	56	89.0	56	346
2	103	KAVIYA	80.0	80	80	80.0	80	400
3	104	RACHEAL	89.0	87	89	87.0	89	441
4	105	RAJAN	89.0	98	90	98.0	90	466
5	106	RAMYA	67.0	76	67	76.0	67	353
6	107	ROHAN	56.0	67	56	67.0	56	302
7	108	ROHINI	57.0	65	57	65.0	57	301
8	109	SANDHYA	58.0	56	58	56.0	58	286
9	110	SARANYA	49.0	45	49	56.0	49	237

The above updated data set will be stored in sample2.xlsx file....

	ROLL NO	NAME	ENGLISH	TAMIL	MATHS	SCIENCE	SOCIAL	TOTAL
0	101	DEEPA	50	67	50	67	50	284
1	102	DINESH	56	89	56	89	56	346
2	103	KAVIYA	80	80	80	80	80	400
3	104	RACHEAL	89	87	89	87	89	441
4	105	RAJAN	89	98	90	98	90	466
5	106	RAMYA	67	76	67	76	67	353
6	107	ROHAN	56	67	56	67	56	302
7	108	ROHINI	57	65	57	65	57	301
8	109	SANDHYA	58	56	58	56	58	286
9	110	SARANYA	49	45	49	56	49	237

Drop one particular column and its values:

	ROLL NO	NAME	ENGLISH	TAMIL	MATHS	SCIENCE	SOCIAL
0	101	DEEPA	50.0	67	50	67.0	50
1	102	DINESH	56.0	89	56	89.0	56
2	103	KAVIYA	80.0	80	80	80.0	80
3	104	RACHEAL	89.0	87	89	87.0	89

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4 105    RAJAN  89.0  98  90  98.0  90
5 106    RAMYA  67.0  76  67  76.0  67
6 107    ROHAN  56.0  67  56  67.0  56
7 108    ROHINI 57.0  65  57  65.0  57
8 109    SANDHYA 58.0  56  58  56.0  58
9 110    SARANYA 49.0  45  49  56.0  49

```

The above updated data set will be stored in sample3.xlsx file....

	ROLL NO	NAME	ENGLISH	TAMIL	MATHS	SCIENCE	SOCIAL
0	101	DEEPA	50	67	50	67	50
1	102	DINESH	56	89	56	89	56
2	103	KAVIYA	80	80	80	80	80
3	104	RACHEAL	89	87	89	87	89
4	105	RAJAN	89	98	90	98	90
5	106	RAMYA	67	76	67	76	67
6	107	ROHAN	56	67	56	67	56
7	108	ROHINI	57	65	57	65	57
8	109	SANDHYA	58	56	58	56	58
9	110	SARANYA	49	45	49	56	49

Drop NaN rows:

Unnamed : 0	ROLL NO	NAME	ENGLISH	TAMIL	MATHS	SCIENCE	SOCIAL	TOTAL
0	101	DEEPA	50	67	50	67	50	284
1	102	DINESH	56	89	56	89	56	346
2	103	KAVIYA	80	80	80	80	80	400
3	104	RACHEAL	89	87	89	87	89	441
4	105							
5	106	RAMYA	67	76	67	76	67	353
6	107	ROHAN	56	67	56	67	56	302
7	108	SANDHYA						
8	109	A	58	56	58	56	58	286
9	110	SARANYA	49	45	49	45	49	237

Unnamed: 0 ROLL NO NAME ENGLISH TAMIL MATHS SCIENCE SOCIAL TOTAL


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0    0    101    DEEPA    50.0    67.0    50.0    67.0    50.0    284.0
1    1    102    DINESH    56.0    89.0    56.0    89.0    56.0    346.0
2    2    103    KAVIYA    80.0    80.0    80.0    80.0    80.0    400.0
3    3    104    RACHEAL    89.0    87.0    89.0    87.0    89.0    441.0
5    5    106    RAMYA    67.0    76.0    67.0    76.0    67.0    353.0
6    6    107    ROHAN    56.0    67.0    56.0    67.0    56.0    302.0
8    8    109    SANDHYA    58.0    56.0    58.0    56.0    58.0    286.0
9    9    110    SARANYA    49.0    45.0    49.0    45.0    49.0    237.0

```

The above updated data set will be stored in sample5.xlsx file....

	Unnamed: 0	ROLL NO	NAME	ENGLISH	TAMIL	MATHS	SCIENCE	SOCIAL	TOTAL
0	0	101	DEEPA	50	67	50	67	50	284
1	1	102	DINESH	56	89	56	89	56	346
2	2	103	KAVIYA	80	80	80	80	80	400
3	3	104	RACHEAL	89	87	89	87	89	441
5	5	106	RAMYA	67	76	67	76	67	353
6	6	107	ROHAN	56	67	56	67	56	302
8	8	109	SANDHYA	58	56	58	56	58	286
9	9	110	SARANYA	49	45	49	45	49	237

Replace values:

Original data set:

```

      Unnamed: 0  ROLL NO      NAME  ENGLISH  TAMIL  MATHS  SCIENCE  SOCIAL
0      0      101      DEEPA    50    67    50    67    50
1      1      102      DINESH    56    89    56    89    56
2      2      103      KAVIYA    80    80    80    80    80
3      3      104      RACHEAL    89    87    89    87    89
4      4      105      RAJAN    89    98    90    98    90
5      5      106      RAMYA    67    76    67    76    67
6      6      107      ROHAN    56    67    56    67    56

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7      7      108      ROHINI      57      65      57      65      57
8      8      109      SANDHYA      58      56      58      56      58
9      9      110      SARANYA      49      45      49      56      49

```

Updated dataset with replaced values: {49:50}

```

Unnamed: 0  ROLL NO      NAME  ENGLISH  TAMIL  MATHS  SCIENCE  SOCIAL
0      0      101      DEEPA      50      67      50      67      50
1      1      102      DINESH      56      89      56      89      56
2      2      103      KAVIYA      80      80      80      80      80
3      3      104      RACHEAL      89      87      89      87      89
4      4      105      RAJAN      89      98      90      98      90
5      5      106      RAMYA      67      76      67      76      67
6      6      107      ROHAN      56      67      56      67      56
7      7      108      ROHINI      57      65      57      65      57
8      8      109      SANDHYA      58      56      58      56      58
9      9      110      SARANYA      50      45      50      56      50

```

The above updated data set will be stored in sample6.xlsx file....

	Unnamed : 0	ROLL NO	NAME	ENGLISH	TAMIL	MATHS	SCIENCE	SOCIAL
0	0	101	DEEPA	50	67	50	67	50
1	1	102	DINESH	56	89	56	89	56
2	2	103	KAVIYA	80	80	80	80	80
3	3	104	RACHEAL	89	87	89	87	89
4	4	105	RAJAN	89	98	90	98	90
5	5	106	RAMYA	67	76	67	76	67
6	6	107	ROHAN	56	67	56	67	56
7	7	108	ROHINI	57	65	57	65	57
8	8	109	SANDHYA	58	56	58	56	58
9	9	110	SARANYA	50	45	50	56	50

Original data set from Excel file:

	ROLL NO	NAME	ENGLISH	TAMIL	MATHS	SCIENCE	SOCIAL	TOTAL
0	101	DEEPA	50.0	67	50	67.0	50	284
1	102	DINESH	56.0	89	56	89.0	56	346
2	103	KAVIYA	80.0	80	80	80.0	80	400
3	104	RACHEAL	89.0	87	89	87.0	89	441
4	105	RAJAN	NaN	98	90	98.0	90	466
5	106	RAMYA	67.0	76	67	76.0	67	353
6	107	ROHAN	56.0	67	56	67.0	56	302
7	108	ROHINI	57.0	65	57	65.0	57	301
8	109	SANDHYA	58.0	56	58	56.0	58	286
9	110	SARANYA	49.0	45	49	NaN	49	237

Extract the particular record based on the isin() function condition:

	ROLL NO	NAME	ENGLISH	TAMIL	MATHS	SCIENCE	SOCIAL	TOTAL
9	110	SARANYA	49.0	45	49	NaN	49	237

Result:

The programs were run successfully