```
import pandas as pd

pd.Series(5)

0    5
dtype: int64

pd.Series([1,2,3,4,5,6])

0    1
1    2
2    3
3    4
4    5
5    6
dtype: int64

a = {'A':["apple"], 'B':["Ball"], 'C':["cat"]}

pd.DataFrame(a)

{"summary":"{\n  \"name\": \"pd\",\n  \"rows\": 1,\n  \"fields\": [\n
{\n      \"column\": \"A\",\n      \"properties\": {\n
\"dtype\": \"string\",\n        \"num_unique_values\": 1,\n
\"samples\": [\n          \"apple\"\n        ],\n
\"semantic_type\": \"\",\n        \"description\": \"\"\n      }\
n    },\n    {\n      \"column\": \"B\",\n      \"properties\": {\n
\"dtype\": \"string\",\n        \"num_unique_values\": 1,\n
\"samples\": [\n          \"Ball\"\n        ],\n
\"semantic_type\": \"\",\n        \"description\": \"\"\n      }\
n    },\n    {\n      \"column\": \"C\",\n      \"properties\": {\n
\"dtype\": \"string\",\n        \"num_unique_values\": 1,\n
\"samples\": [\n          \"cat\"\n        ],\n
\"semantic_type\": \"\",\n        \"description\": \"\"\n      }\
n    }\n  ]\n}","type":"dataframe"}

df = pd.read_csv('/content/Medicaldataset.csv')

type(df)

pandas.core.frame.DataFrame

df

{"summary":"{\n  \"name\": \"df\",\n  \"rows\": 1319,\n  \"fields\":
[\n    {\n      \"column\": \"Age\",\n      \"properties\": {\n
\"dtype\": \"number\",\n        \"std\": 13,\n        \"min\": 14,\n
\"max\": 103,\n        \"num_unique_values\": 75,\n
\"samples\": [\n          32,\n          81,\n          61\
n        ],\n        \"semantic_type\": \"\",\n
\"description\": \"\"\n      }\n    },\n    {\n      \"column\":
\"Gender\",\n      \"properties\": {\n        \"dtype\": \"number\",\n
```

```
\"std\": 0,\n        \"min\": 0,\n        \"max\": 1,\n
\"num_unique_values\": 2,\n        \"samples\": [\n          0,\n
1\n        ],\n        \"semantic_type\": \"\",\n
\"description\": \"\"\n      }\n    },\n    {\n      \"column\":
\"Heart rate\",\n      \"properties\": {\n        \"dtype\":
\"number\",\n        \"std\": 51,\n        \"min\": 20,\n
\"max\": 1111,\n        \"num_unique_values\": 79,\n
\"samples\": [\n          59,\n          66\n        ],\n
\"semantic_type\": \"\",\n        \"description\": \"\"\n      }\
n    },\n    {\n      \"column\": \"Systolic blood pressure\",\n
\"properties\": {\n        \"dtype\": \"number\",\n        \"std\":
26,\n        \"min\": 42,\n        \"max\": 223,\n
\"num_unique_values\": 116,\n        \"samples\": [\n          93,\n
179\n        ],\n        \"semantic_type\": \"\",\n
\"description\": \"\"\n      }\n    },\n    {\n      \"column\":
\"Diastolic blood pressure\",\n      \"properties\": {\n
\"dtype\": \"number\",\n        \"std\": 14,\n        \"min\": 38,\n
\"max\": 154,\n        \"num_unique_values\": 73,\n
\"samples\": [\n          65,\n          41\n        ],\n
\"semantic_type\": \"\",\n        \"description\": \"\"\n      }\
n    },\n    {\n      \"column\": \"Blood sugar\",\n
\"properties\": {\n        \"dtype\": \"number\",\n        \"std\":
74.92304465780165,\n        \"min\": 35.0,\n        \"max\": 541.0,\n
\"num_unique_values\": 244,\n        \"samples\": [\n          166.0,\
n          135.0\n        ],\n        \"semantic_type\": \"\",\n
\"description\": \"\"\n      }\n    },\n    {\n      \"column\": \"CK-
MB\",\n      \"properties\": {\n        \"dtype\": \"number\",\n
\"std\": 46.32708334398735,\n        \"min\": 0.321,\n        \"max\":
300.0,\n        \"num_unique_values\": 700,\n        \"samples\": [\n
286.9,\n          0.457\n        ],\n        \"semantic_type\": \"\",\
n        \"description\": \"\"\n      }\n    },\n    {\n
\"column\": \"Troponin\",\n      \"properties\": {\n        \"dtype\":
\"number\",\n        \"std\": 1.1545676649221834,\n        \"min\":
0.001,\n        \"max\": 10.3,\n        \"num_unique_values\": 352,\n
\"samples\": [\n          1.44,\n          0.431\n        ],\n
\"semantic_type\": \"\",\n        \"description\": \"\"\n      }\
n    },\n    {\n      \"column\": \"Result\",\n      \"properties\":
{\n        \"dtype\": \"category\",\n        \"num_unique_values\":
2,\n        \"samples\": [\n          \"positive\",\n
\"negative\"\n        ],\n        \"semantic_type\": \"\",\n
\"description\": \"\"\n      }\n    }\n  ]\
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```


```
df.head()
```


```
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\"max\": 103,\n        \"num_unique_values\": 75,\n
\"samples\": [\n          32,\n          81,\n          61\
```

```
n        ],\n        \"semantic_type\": \"\",\n
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\"Gender\",\n      \"properties\": {\n        \"dtype\": \"number\",\n
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1\n        ],\n        \"semantic_type\": \"\",\n
\"description\": \"\"\n      }\n    },\n    {\n      \"column\":
\"Heart rate\",\n      \"properties\": {\n        \"dtype\":
\"number\",\n        \"std\": 51,\n        \"min\": 20,\n
\"max\": 1111,\n        \"num_unique_values\": 79,\n
\"samples\": [\n          59,\n          66\n        ],\n
\"semantic_type\": \"\",\n        \"description\": \"\"\n      }\
n    },\n    {\n      \"column\": \"Systolic blood pressure\",\n
\"properties\": {\n        \"dtype\": \"number\",\n        \"std\":
26,\n        \"min\": 42,\n        \"max\": 223,\n
\"num_unique_values\": 116,\n        \"samples\": [\n          93,\n
179\n        ],\n        \"semantic_type\": \"\",\n
\"description\": \"\"\n      }\n    },\n    {\n      \"column\":
\"Diastolic blood pressure\",\n      \"properties\": {\n
\"dtype\": \"number\",\n        \"std\": 14,\n        \"min\": 38,\n
\"max\": 154,\n        \"num_unique_values\": 73,\n
\"samples\": [\n          65,\n          41\n        ],\n
\"semantic_type\": \"\",\n        \"description\": \"\"\n      }\
n    },\n    {\n      \"column\": \"Blood sugar\",\n
\"properties\": {\n        \"dtype\": \"number\",\n        \"std\":
74.92304465780165,\n        \"min\": 35.0,\n        \"max\": 541.0,\n
\"num_unique_values\": 244,\n        \"samples\": [\n          166.0,\
n          135.0\n        ],\n        \"semantic_type\": \"\",\n
\"description\": \"\"\n      }\n    },\n    {\n      \"column\": \"CK-
MB\",\n      \"properties\": {\n        \"dtype\": \"number\",\n
\"std\": 46.32708334398735,\n        \"min\": 0.321,\n        \"max\":
300.0,\n        \"num_unique_values\": 700,\n        \"samples\": [\n
286.9,\n          0.457\n        ],\n        \"semantic_type\": \"\",\
n        \"description\": \"\"\n      }\n    },\n    {\n
\"column\": \"Troponin\",\n      \"properties\": {\n        \"dtype\":
\"number\",\n        \"std\": 1.1545676649221834,\n        \"min\":
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\"samples\": [\n          1.44,\n          0.431\n        ],\n
\"semantic_type\": \"\",\n        \"description\": \"\"\n      }\
n    },\n    {\n      \"column\": \"Result\",\n      \"properties\":
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\"negative\"\n        ],\n        \"semantic_type\": \"\",\n
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```


```
df.head(10)
```


```
{"summary":"{\n  \"name\": \"df\",\n  \"rows\": 1319,\n  \"fields\":
[\n    {\n      \"column\": \"Age\",\n      \"properties\": {\n
```

\"dtype\": \"number\",\n   \"std\": 13,\n   \"min\": 14,\n
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n   ],\n   \"semantic_type\": \"\",\n
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\"Gender\",\n   \"properties\": {\n   \"dtype\": \"number\",\n
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1\n   ],\n   \"semantic_type\": \"\",\n
\"description\": \"\"\n   }\n   },\n   {\n   \"column\":
\"Heart rate\",\n   \"properties\": {\n   \"dtype\":
\"number\",\n   \"std\": 51,\n   \"min\": 20,\n
\"max\": 1111,\n   \"num_unique_values\": 79,\n
\"samples\": [\n   59,\n   66\n   ],\n
\"semantic_type\": \"\",\n   \"description\": \"\"\n   }\
n   },\n   {\n   \"column\": \"Systolic blood pressure\",\n
\"properties\": {\n   \"dtype\": \"number\",\n   \"std\":
26,\n   \"min\": 42,\n   \"max\": 223,\n
\"num_unique_values\": 116,\n   \"samples\": [\n   93,\n
179\n   ],\n   \"semantic_type\": \"\",\n
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\"Diastolic blood pressure\",\n   \"properties\": {\n
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\"max\": 154,\n   \"num_unique_values\": 73,\n
\"samples\": [\n   65,\n   41\n   ],\n
\"semantic_type\": \"\",\n   \"description\": \"\"\n   }\
n   },\n   {\n   \"column\": \"Blood sugar\",\n
\"properties\": {\n   \"dtype\": \"number\",\n   \"std\":
74.92304465780165,\n   \"min\": 35.0,\n   \"max\": 541.0,\n
\"num_unique_values\": 244,\n   \"samples\": [\n   166.0,\
n   135.0\n   ],\n   \"semantic_type\": \"\",\n
\"description\": \"\"\n   }\n   },\n   {\n   \"column\": \"CK-
MB\",\n   \"properties\": {\n   \"dtype\": \"number\",\n
\"std\": 46.32708334398735,\n   \"min\": 0.321,\n   \"max\":
300.0,\n   \"num_unique_values\": 700,\n   \"samples\": [\n
286.9,\n   0.457\n   ],\n   \"semantic_type\": \"\",\
n   \"description\": \"\"\n   }\n   },\n   {\n
\"column\": \"Troponin\",\n   \"properties\": {\n   \"dtype\":
\"number\",\n   \"std\": 1.1545676649221834,\n   \"min\":
0.001,\n   \"max\": 10.3,\n   \"num_unique_values\": 352,\n
\"samples\": [\n   1.44,\n   0.431\n   ],\n
\"semantic_type\": \"\",\n   \"description\": \"\"\n   }\
n   },\n   {\n   \"column\": \"Result\",\n   \"properties\":
{\n   \"dtype\": \"category\",\n   \"num_unique_values\":
2,\n   \"samples\": [\n   \"positive\",\n
\"negative\"\n   ],\n   \"semantic_type\": \"\",\n
\"description\": \"\"\n   }\n   }\n]\
n}","type":"dataframe","variable_name":"df"}

```
df.tail()
```

{"summary":"{\n \"name\": \"df\",\n \"rows\": 5,\n \"fields\": [\n{\n   \"column\": \"Age\",\n   \"properties\": {\n\"dtype\": \"number\",\n   \"std\": 8,\n   \"min\": 44,\n\"max\": 66,\n   \"num_unique_values\": 5,\n   \"samples\": [\n   66,\n   51,\n   45\n   ],\n\"semantic_type\": \"\",\n   \"description\": \"\"\n   }\n   },\n   {\n   \"column\": \"Gender\",\n   \"properties\": {\n   \"dtype\": \"number\",\n   \"std\": 0,\n\"min\": 1,\n   \"max\": 1,\n   \"num_unique_values\": 1,\n\"samples\": [\n   1\n   ],\n   \"semantic_type\": \"\",\n   \"description\": \"\"\n   }\n   },\n   {\n\"column\": \"Heart rate\",\n   \"properties\": {\n\"dtype\": \"number\",\n   \"std\": 14,\n   \"min\": 58,\n\"max\": 94,\n   \"num_unique_values\": 4,\n   \"samples\": [\n   84\n   ],\n   \"semantic_type\": \"\",\n\"description\": \"\"\n   }\n   },\n   {\n   \"column\": \"Systolic blood pressure\",\n   \"properties\": {\n\"dtype\": \"number\",\n   \"std\": 23,\n   \"min\": 117,\n\"max\": 168,\n   \"num_unique_values\": 5,\n   \"samples\": [\n   125\n   ],\n   \"semantic_type\": \"\",\n\"description\": \"\"\n   }\n   },\n   {\n   \"column\": \"Diastolic blood pressure\",\n   \"properties\": {\n\"dtype\": \"number\",\n   \"std\": 18,\n   \"min\": 55,\n\"max\": 104,\n   \"num_unique_values\": 5,\n   \"samples\": [\n   55\n   ],\n   \"semantic_type\": \"\",\n\"description\": \"\"\n   }\n   },\n   {\n   \"column\": \"Blood sugar\",\n   \"properties\": {\n   \"dtype\": \"number\",\n   \"std\": 138.47635177170145,\n   \"min\": 96.0,\n   \"max\": 443.0,\n   \"num_unique_values\": 5,\n\"samples\": [\n   149.0\n   ],\n\"semantic_type\": \"\",\n   \"description\": \"\"\n   }\n   },\n   {\n   \"column\": \"CK-MB\",\n   \"properties\": {\n   \"dtype\": \"number\",\n   \"std\": 21.72485373943862,\n\"min\": 1.24,\n   \"max\": 50.89,\n\"num_unique_values\": 5,\n   \"samples\": [\n   1.33\n],\n   \"semantic_type\": \"\",\n   \"description\": \"\"\n}\n   },\n   {\n   \"column\": \"Troponin\",\n\"properties\": {\n   \"dtype\": \"number\",\n   \"std\": 1.7857107268535968,\n   \"min\": 0.006,\n   \"max\": 4.25,\n\"num_unique_values\": 5,\n   \"samples\": [\n   0.172\n],\n   \"semantic_type\": \"\",\n   \"description\": \"\"\n}\n   },\n   {\n   \"column\": \"Result\",\n   \"properties\": {\n   \"dtype\": \"category\",\n   \"num_unique_values\": 2,\n   \"samples\": [\n   \"positive\"\n   ],\n\"semantic_type\": \"\",\n   \"description\": \"\"\n   }\n   }\n]\n}","type":"dataframe"}

```
df.tail(18)
```

```
{"summary":"{\n  \"name\": \"df\",\n  \"rows\": 18,\n  \"fields\": [\n{\n      \"column\": \"Age\",\n      \"properties\": {\n\"dtype\": \"number\",\n        \"std\": 13,\n        \"min\": 40,\n\"max\": 86,\n        \"num_unique_values\": 14,\n        \"samples\": [\n          86,\n          66,\n          47\n        ],\n\"semantic_type\": \"\",\n        \"description\": \"\"\n      }\n    },\n    {\n      \"column\": \"Gender\",\n      \"properties\": {\n        \"dtype\": \"number\",\n        \"std\": 0,\n\"min\": 0,\n        \"max\": 1,\n        \"num_unique_values\": 2,\n\"samples\": [\n          1,\n          0\n        ],\n\"semantic_type\": \"\",\n        \"description\": \"\"\n      }\n    },\n    {\n      \"column\": \"Heart rate\",\n\"properties\": {\n        \"dtype\": \"number\",\n        \"std\": 19,\n        \"min\": 40,\n        \"max\": 117,\n\"num_unique_values\": 13,\n        \"samples\": [\n          40,\n          112\n        ],\n        \"semantic_type\": \"\",\n\"description\": \"\"\n      }\n    },\n    {\n      \"column\": \"Systolic blood pressure\",\n      \"properties\": {\n\"dtype\": \"number\",\n        \"std\": 30,\n        \"min\": 93,\n\"max\": 208,\n        \"num_unique_values\": 15,\n\"samples\": [\n          115,\n          179\n        ],\n\"semantic_type\": \"\",\n        \"description\": \"\"\n      }\n    },\n    {\n      \"column\": \"Diastolic blood pressure\",\n\"properties\": {\n        \"dtype\": \"number\",\n        \"std\": 12,\n        \"min\": 40,\n        \"max\": 104,\n\"num_unique_values\": 13,\n        \"samples\": [\n          104,\n          75\n        ],\n        \"semantic_type\": \"\",\n\"description\": \"\"\n      }\n    },\n    {\n      \"column\": \"Blood sugar\",\n      \"properties\": {\n        \"dtype\": \"number\",\n        \"std\": 92.36700384170102,\n        \"min\": 96.0,\n        \"max\": 443.0,\n        \"num_unique_values\": 17,\n\"samples\": [\n          170.0,\n          108.0\n        ],\n\"semantic_type\": \"\",\n        \"description\": \"\"\n      }\n    },\n    {\n      \"column\": \"CK-MB\",\n      \"properties\": {\n        \"dtype\": \"number\",\n        \"std\": 13.760425839378874,\n        \"min\": 0.78,\n        \"max\": 50.89,\n\"num_unique_values\": 18,\n        \"samples\": [\n          1.19,\n          2.11\n        ],\n        \"semantic_type\": \"\",\n\"description\": \"\"\n      }\n    },\n    {\n      \"column\": \"Troponin\",\n      \"properties\": {\n        \"dtype\": \"number\",\n        \"std\": 2.4651125927168605,\n        \"min\": 0.003,\n        \"max\": 10.0,\n        \"num_unique_values\": 15,\n\"samples\": [\n          0.006,\n          0.172\n        ],\n\"semantic_type\": \"\",\n        \"description\": \"\"\n      }\n    },\n    {\n      \"column\": \"Result\",\n      \"properties\": {\n        \"dtype\": \"category\",\n        \"num_unique_values\": 2,\n        \"samples\": [\n          \"negative\",\n\"positive\"\n        ],\n        \"semantic_type\": \"\",\n\"description\": \"\"\n      }\n    }\n  ]\n}","type":"dataframe"}
```

```
df.shape
```

```
(1319, 9)
```

```
df.columns
```

```
Index(['Age', 'Gender', 'Heart rate', 'Systolic blood pressure',
       'Diastolic blood pressure', 'Blood sugar', 'CK-MB', 'Troponin',
       'Result'],
      dtype='object')
```

```
df['Heart rate']
```

```
0       66
1       94
2       64
3       70
4       64
       ..
1314    94
1315    84
1316    85
1317    58
1318    94
Name: Heart rate, Length: 1319, dtype: int64
```

```
type(df['Heart rate'])
```

```
pandas.core.series.Series
```

```
df[['Heart rate', 'Gender']]
```


```
{"summary":"{\n  \"name\": \"df[['Heart rate', 'Gender']]\",\n  \"rows\": 1319,\n  \"fields\": [\n    {\n      \"column\": \"Heart rate\",\n      \"properties\": {\n        \"dtype\": \"number\",\n        \"std\": 51,\n        \"min\": 20,\n        \"max\": 1111,\n        \"num_unique_values\": 79,\n        \"samples\": [\n          59,\n          66,\n          91\n        ],\n        \"semantic_type\": \"\",\n        \"description\": \"\"\n      }\n    },\n    {\n      \"column\": \"Gender\",\n      \"properties\": {\n        \"dtype\": \"number\",\n        \"std\": 0,\n        \"min\": 0,\n        \"max\": 1,\n        \"num_unique_values\": 2,\n        \"samples\": [\n          0,\n          1\n        ],\n        \"semantic_type\": \"\",\n        \"description\": \"\"\n      }\n    }\n  ]\n}","type":"dataframe"}
```


```
type(df[['Heart rate', 'Gender']])
```

```
pandas.core.frame.DataFrame
```

operations on the given dataset

```
df['Systolic blood pressure'].sum()
```

```
np.int64(167738)
```

```
df['Heart rate'].value_counts()
```

```
Heart rate
60     95
61     57
70     48
64     47
80     46
       ..
107     1
49      1
46      1
36      1
45      1
Name: count, Length: 79, dtype: int64
```

```
df['Systolic blood pressure'].value_counts()
```

```
Systolic blood pressure
150    50
130    41
125    41
120    38
140    32
       ..
42      1
159     1
161     1
183     1
204     1
Name: count, Length: 116, dtype: int64
```

```
df['Age'].max()
```

```
103
```

```
df['Result'].min()
```

```
{"type":"string"}
```

```
df['Diastolic blood pressure'].mean()
```

```
np.float64(72.26914329037149)
```

```
df['Troponin'].std()
```

```
1.1545676649221834
```

```
df['Result'].count()
```

```
np.int64(1319)
```

```
avg = (df['Heart rate'].sum())/(df['Heart rate'].count())
```

```
avg
```

```
np.float64(78.3366186504928)
```