|  | **id** | **age** | **bp** | **sg** | **al** | **su** | **bgr** | **bu** | **sc** | **sod** | **pot** | **hemo** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **count** | 400.000000 | 391.000000 | 388.000000 | 353.000000 | 354.000000 | 351.000000 | 356.000000 | 381.000000 | 383.000000 | 313.000000 | 312.000000 | 348.000000 |
| **mean** | 199.500000 | 51.483376 | 76.469072 | 1.017408 | 1.016949 | 0.450142 | 148.036517 | 57.425722 | 3.072454 | 137.528754 | 4.627244 | 12.526437 |
| **std** | 115.614301 | 17.169714 | 13.683637 | 0.005717 | 1.352679 | 1.099191 | 79.281714 | 50.503006 | 5.741126 | 10.408752 | 3.193904 | 2.912587 |
| **min** | 0.000000 | 2.000000 | 50.000000 | 1.005000 | 0.000000 | 0.000000 | 22.000000 | 1.500000 | 0.400000 | 4.500000 | 2.500000 | 3.100000 |
| **25%** | 99.750000 | 42.000000 | 70.000000 | 1.010000 | 0.000000 | 0.000000 | 99.000000 | 27.000000 | 0.900000 | 135.000000 | 3.800000 | 10.300000 |
| **50%** | 199.500000 | 55.000000 | 80.000000 | 1.020000 | 0.000000 | 0.000000 | 121.000000 | 42.000000 | 1.300000 | 138.000000 | 4.400000 | 12.650000 |
| **75%** | 299.250000 | 64.500000 | 80.000000 | 1.020000 | 2.000000 | 0.000000 | 163.000000 | 66.000000 | 2.800000 | 142.000000 | 4.900000 | 15.000000 |
| **max** | 399.000000 | 90.000000 | 180.000000 | 1.025000 | 5.000000 | 5.000000 | 490.000000 | 391.000000 | 76.000000 | 163.000000 | 47.000000 | 17.800000 |
|  | id | age | bp | sg | al | su | bgr | bu | sc | sod | pot | Hemo |

|  | **id** | **age** | **blood pressure** | **specific gravity** | **albumin** | **sugar** | **red blood cells** | **pus cell** | **pus cell clumps** | **bacteria** | **...** | **packed cell volume** | **white blood cell count** | **red blood cell count** | **hypertension** | **diabetes mellitus** | **coronary artery disease** | **appetite** | **pedal edema** | **anemia** | **classification** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **0** | 0 | 48.0 | 80.0 | 1.020 | 1.0 | 0.0 | NaN | normal | notpresent | notpresent | ... | 44 | 7800 | 5.2 | yes | yes | no | good | no | no | ckd |
| **1** | 1 | 7.0 | 50.0 | 1.020 | 4.0 | 0.0 | NaN | normal | notpresent | notpresent | ... | 38 | 6000 | NaN | no | no | no | good | no | no | ckd |
| **2** | 2 | 62.0 | 80.0 | 1.010 | 2.0 | 3.0 | normal | normal | notpresent | notpresent | ... | 31 | 7500 | NaN | no | yes | no | poor | no | yes | ckd |
| **3** | 3 | 48.0 | 70.0 | 1.005 | 4.0 | 0.0 | normal | abnormal | present | notpresent | ... | 32 | 6700 | 3.9 | yes | no | no | poor | yes | yes | ckd |
| **4** | 4 | 51.0 | 80.0 | 1.010 | 2.0 | 0.0 | normal | normal | notpresent | notpresent | ... | 35 | 7300 | 4.6 | no | no | no | good | no | no | ckd |

5 rows × 26 c

|  | **id** | **age** | **blood pressure** | **specific gravity** | **albumin** | **sugar** | **red blood cells** | **pus cell** | **pus cell clumps** | **bacteria** | **...** | **packed cell volume** | **white blood cell count** | **red blood cell count** | **hypertension** | **diabetes mellitus** | **coronary artery disease** | **appetite** | **pedal edema** | **anemia** | **classification** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **0** | 0 | 48.0 | 80.0 | 1.020 | 1.0 | 0.0 | normal | normal | notpresent | notpresent | ... | 44.0 | 7800.0 | 5.2 | yes | yes | no | good | no | no | ckd |
| **1** | 1 | 7.0 | 50.0 | 1.020 | 4.0 | 0.0 | normal | normal | notpresent | notpresent | ... | 38.0 | 6000.0 | 4.8 | no | no | no | good | no | no | ckd |
| **2** | 2 | 62.0 | 80.0 | 1.010 | 2.0 | 3.0 | normal | normal | notpresent | notpresent | ... | 31.0 | 7500.0 | 4.8 | no | yes | no | poor | no | yes | ckd |
| **3** | 3 | 48.0 | 70.0 | 1.005 | 4.0 | 0.0 | normal | abnormal | present | notpresent | ... | 32.0 | 6700.0 | 3.9 | yes | no | no | poor | yes | yes | ckd |
| **4** | 4 | 51.0 | 80.0 | 1.010 | 2.0 | 0.0 | normal | normal | notpresent | notpresent | ... | 35.0 | 7300.0 | 4.6 | no | no | no | good | no | no | ckd |

5 rows × 26 columns

<class 'pandas.core.frame.DataFrame'>

RangeIndex: 400 entries, 0 to 399

Data columns (total 26 columns):

# Column Non-Null Count Dtype

--- ------ -------------- -----

0 id 400 non-null int64

1 age 391 non-null float64

2 blood pressure 388 non-null float64

3 specific gravity 353 non-null float64

4 albumin 354 non-null float64

5 sugar 351 non-null float64

6 red blood cells 248 non-null object

7 pus cell 335 non-null object

8 pus cell clumps 396 non-null object

9 bacteria 396 non-null object

10 blood glucose random 356 non-null float64

11 blood urea 381 non-null float64

12 serum creatinine 383 non-null float64

13 sodium 313 non-null float64

14 potassium 312 non-null float64

15 hemoglobin 348 non-null float64

16 packed cell volume 330 non-null object

17 white blood cell count 295 non-null object

18 red blood cell count 270 non-null object

19 hypertension 398 non-null object

20 diabetes mellitus 398 non-null object

21 coronary artery disease 398 non-null object

22 appetite 399 non-null object

23 pedal edema 399 non-null object

24 anemia 399 non-null object

25 classification 400 non-null object

dtypes: float64(11), int64(1), object(14)

memory usage: 81.4+ KB

|  | **id** | **age** | **blood pressure** | **specific gravity** | **albumin** | **sugar** | **red blood cells** | **pus cell** | **pus cell clumps** | **bacteria** | **...** | **packed cell volume** | **white blood cell count** | **red blood cell count** | **hypertension** | **diabetes mellitus** | **coronary artery disease** | **appetite** | **pedal edema** | **anemia** | **classification** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **0** | False | False | False | False | False | False | True | False | False | False | ... | False | False | False | False | False | False | False | False | False | False |
| **1** | False | False | False | False | False | False | True | False | False | False | ... | False | False | True | False | False | False | False | False | False | False |
| **2** | False | False | False | False | False | False | False | False | False | False | ... | False | False | True | False | False | False | False | False | False | False |
| **3** | False | False | False | False | False | False | False | False | False | False | ... | False | False | False | False | False | False | False | False | False | False |
| **4** | False | False | False | False | False | False | False | False | False | False | ... | False | False | False | False | False | False | False | False | False | False |
| **...** | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| **395** | False | False | False | False | False | False | False | False | False | False | ... | False | False | False | False | False | False | False | False | False | False |
| **396** | False | False | False | False | False | False | False | False | False | False | ... | False | False | False | False | False | False | False | False | False | False |
| **397** | False | False | False | False | False | False | False | False | False | False | ... | False | False | False | False | False | False | False | False | False | False |
| **398** | False | False | False | False | False | False | False | False | False | False | ... | False | False | False | False | False | False | False | False | False | False |
| **399** | False | False | False | False | False | False | False | False | False | False | ... | False | False | False | False | False | False | False | False | False | False |

id 0 age 9 blood pressure 12 specific gravity 47 albumin 46 sugar 49 red blood cells 152 pus cell 65 pus cell clumps 4 bacteria 4 blood glucose random 44 blood urea 19 serum creatinine 17 sodium 87 potassium 88 hemoglobin 52 packed cell volume 70 white blood cell count 105 red blood cell count 130 hypertension 2 diabetes mellitus 2 coronary artery disease 2 appetite 1 pedal edema 1 anemia 1 classification 0 dtype: int64

400

id 0.0000

age 0.0225

blood pressure 0.0300

specific gravity 0.1175

albumin 0.1150

sugar 0.1225

red blood cells 0.3800

pus cell 0.1625

pus cell clumps 0.0100

bacteria 0.0100

blood glucose random 0.1100

blood urea 0.0475

serum creatinine 0.0425

sodium 0.2175

potassium 0.2200

hemoglobin 0.1300

packed cell volume 0.1750

white blood cell count 0.2625

red blood cell count 0.3250

hypertension 0.0050

diabetes mellitus 0.0050

coronary artery disease 0.0050

appetite 0.0025

pedal edema 0.0025

anemia 0.0025

classification 0.0000

dtype: float64

CodeText

red blood cells 38.00

red blood cell count 32.50

white blood cell count 26.25

potassium 22.00

sodium 21.75

packed cell volume 17.50

pus cell 16.25

hemoglobin 13.00

sugar 12.25

specific gravity 11.75

albumin 11.50

blood glucose random 11.00

blood urea 4.75

serum creatinine 4.25

blood pressure 3.00

age 2.25

bacteria 1.00

pus cell clumps 1.00

hypertension 0.50

diabetes mellitus 0.50

coronary artery disease 0.50

anemia 0.25

appetite 0.25

pedal edema 0.25

id 0.00

classification 0.00

dtype: float64

CodeText

<class 'pandas.core.frame.DataFrame'>

RangeIndex: 400 entries, 0 to 399

Data columns (total 26 columns):

# Column Non-Null Count Dtype

--- ------ -------------- -----

0 id 400 non-null int64

1 age 391 non-null float64

2 blood pressure 388 non-null float64

3 specific gravity 353 non-null float64

4 albumin 354 non-null float64

5 sugar 351 non-null float64

6 red blood cells 248 non-null object

7 pus cell 335 non-null object

8 pus cell clumps 396 non-null object

9 bacteria 396 non-null object

10 blood glucose random 356 non-null float64

11 blood urea 381 non-null float64

12 serum creatinine 383 non-null float64

13 sodium 313 non-null float64

14 potassium 312 non-null float64

15 hemoglobin 348 non-null float64

16 packed cell volume 330 non-null object

17 white blood cell count 295 non-null object

18 red blood cell count 270 non-null object

19 hypertension 398 non-null object

20 diabetes mellitus 398 non-null object

21 coronary artery disease 398 non-null object

22 appetite 399 non-null object

23 pedal edema 399 non-null object

24 anemia 399 non-null object

25 classification 400 non-null object

dtypes: float64(11), int64(1), object(14)

memory usage: 81.4+ KB

| **id** | **age** | **blood pressure** | **specific gravity** | **albumin** | **sugar** | **blood glucose random** | **blood urea** | **serum creatinine** | **sodium** | **potassium** | **hemoglobin** | **white blood cell count** | **red blood cell count** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **count** | 400.000000 | 391.000000 | 388.000000 | 353.000000 | 354.000000 | 351.000000 | 356.000000 | 381.000000 | 383.000000 | 313.000000 | 312.000000 | 348.000000 | 294.000000 | 269.000000 |
| **mean** | 199.500000 | 51.483376 | 76.469072 | 1.017408 | 1.016949 | 0.450142 | 148.036517 | 57.425722 | 3.072454 | 137.528754 | 4.627244 | 12.526437 | 8406.122449 | 4.707435 |
| **std** | 115.614301 | 17.169714 | 13.683637 | 0.005717 | 1.352679 | 1.099191 | 79.281714 | 50.503006 | 5.741126 | 10.408752 | 3.193904 | 2.912587 | 2944.474190 | 1.025323 |
| **min** | 0.000000 | 2.000000 | 50.000000 | 1.005000 | 0.000000 | 0.000000 | 22.000000 | 1.500000 | 0.400000 | 4.500000 | 2.500000 | 3.100000 | 2200.000000 | 2.100000 |
| **25%** | 99.750000 | 42.000000 | 70.000000 | 1.010000 | 0.000000 | 0.000000 | 99.000000 | 27.000000 | 0.900000 | 135.000000 | 3.800000 | 10.300000 | 6500.000000 | 3.900000 |
| **50%** | 199.500000 | 55.000000 | 80.000000 | 1.020000 | 0.000000 | 0.000000 | 121.000000 | 42.000000 | 1.300000 | 138.000000 | 4.400000 | 12.650000 | 8000.000000 | 4.800000 |
| **75%** | 299.250000 | 64.500000 | 80.000000 | 1.020000 | 2.000000 | 0.000000 | 163.000000 | 66.000000 | 2.800000 | 142.000000 | 4.900000 | 15.000000 | 9800.000000 | 5.400000 |
| **max** | 399.000000 | 90.000000 | 180.000000 | 1.025000 | 5.000000 | 5.000000 | 490.000000 | 391.000000 | 76.000000 | 163.000000 | 47.000000 | 17.800000 | 26400.000000 | 8.000000 |

|  | **count** | **unique** | **top** | **freq** | **mean** | **std** | **min** | **25%** | **50%** | **75%** | **max** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **id** | 400.0 | NaN | NaN | NaN | 199.5 | 115.614301 | 0.0 | 99.75 | 199.5 | 299.25 | 399.0 |
| **age** | 391.0 | NaN | NaN | NaN | 51.483376 | 17.169714 | 2.0 | 42.0 | 55.0 | 64.5 | 90.0 |
| **blood pressure** | 388.0 | NaN | NaN | NaN | 76.469072 | 13.683637 | 50.0 | 70.0 | 80.0 | 80.0 | 180.0 |
| **specific gravity** | 353.0 | NaN | NaN | NaN | 1.017408 | 0.005717 | 1.005 | 1.01 | 1.02 | 1.02 | 1.025 |
| **albumin** | 354.0 | NaN | NaN | NaN | 1.016949 | 1.352679 | 0.0 | 0.0 | 0.0 | 2.0 | 5.0 |
| **sugar** | 351.0 | NaN | NaN | NaN | 0.450142 | 1.099191 | 0.0 | 0.0 | 0.0 | 0.0 | 5.0 |
| **red blood cells** | 248 | 2 | normal | 201 | NaN | NaN | NaN | NaN | NaN | NaN | NaN |
| **pus cell** | 335 | 2 | normal | 259 | NaN | NaN | NaN | NaN | NaN | NaN | NaN |
| **pus cell clumps** | 396 | 2 | notpresent | 354 | NaN | NaN | NaN | NaN | NaN | NaN | NaN |
| **bacteria** | 396 | 2 | notpresent | 374 | NaN | NaN | NaN | NaN | NaN | NaN | NaN |
| **blood glucose random** | 356.0 | NaN | NaN | NaN | 148.036517 | 79.281714 | 22.0 | 99.0 | 121.0 | 163.0 | 490.0 |
| **blood urea** | 381.0 | NaN | NaN | NaN | 57.425722 | 50.503006 | 1.5 | 27.0 | 42.0 | 66.0 | 391.0 |
| **serum creatinine** | 383.0 | NaN | NaN | NaN | 3.072454 | 5.741126 | 0.4 | 0.9 | 1.3 | 2.8 | 76.0 |
| **sodium** | 313.0 | NaN | NaN | NaN | 137.528754 | 10.408752 | 4.5 | 135.0 | 138.0 | 142.0 | 163.0 |
| **potassium** | 312.0 | NaN | NaN | NaN | 4.627244 | 3.193904 | 2.5 | 3.8 | 4.4 | 4.9 | 47.0 |
| **hemoglobin** | 348.0 | NaN | NaN | NaN | 12.526437 | 2.912587 | 3.1 | 10.3 | 12.65 | 15.0 | 17.8 |
| **packed cell volume** | 330 | 44 | 41 | 21 | NaN | NaN | NaN | NaN | NaN | NaN | NaN |
| **white blood cell count** | 294.0 | NaN | NaN | NaN | 8406.122449 | 2944.47419 | 2200.0 | 6500.0 | 8000.0 | 9800.0 | 26400.0 |
| **red blood cell count** | 269.0 | NaN | NaN | NaN | 4.707435 | 1.025323 | 2.1 | 3.9 | 4.8 | 5.4 | 8.0 |
| **hypertension** | 398 | 2 | no | 251 | NaN | NaN | NaN | NaN | NaN | NaN | NaN |
| **diabetes mellitus** | 398 | 5 | no | 258 | NaN | NaN | NaN | NaN | NaN | NaN | NaN |
| **coronary artery disease** | 398 | 3 | no | 362 | NaN | NaN | NaN | NaN | NaN | NaN | NaN |
| **appetite** | 399 | 2 | good | 317 | NaN | NaN | NaN | NaN | NaN | NaN | NaN |
| **pedal edema** | 399 | 2 | no | 323 | NaN | NaN | NaN | NaN | NaN | NaN | NaN |
| **anemia** | 399 | 2 | no | 339 | NaN | NaN | NaN | NaN | NaN | NaN | NaN |
| **classification** | 400 | 3 | ckd | 248 | NaN | NaN | NaN | NaN | NaN | NaN | NaN |

id [0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13,...

age [48.0, 7.0, 62.0, 51.0, 60.0, 68.0, 24.0, 52.0...

blood pressure [80.0, 50.0, 70.0, 90.0, nan, 100.0, 60.0, 110...

specific gravity [1.02, 1.01, 1.005, 1.015, nan, 1.025]

albumin [1.0, 4.0, 2.0, 3.0, 0.0, nan, 5.0]

sugar [0.0, 3.0, 4.0, 1.0, nan, 2.0, 5.0]

red blood cells [nan, normal, abnormal]

pus cell [normal, abnormal, nan]

pus cell clumps [notpresent, present, nan]

bacteria [notpresent, present, nan]

blood glucose random [121.0, nan, 423.0, 117.0, 106.0, 74.0, 100.0,...

blood urea [36.0, 18.0, 53.0, 56.0, 26.0, 25.0, 54.0, 31....

serum creatinine [1.2, 0.8, 1.8, 3.8, 1.4, 1.1, 24.0, 1.9, 7.2,...

sodium [nan, 111.0, 142.0, 104.0, 114.0, 131.0, 138.0...

potassium [nan, 2.5, 3.2, 4.0, 3.7, 4.2, 5.8, 3.4, 6.4, ...

hemoglobin [15.4, 11.3, 9.6, 11.2, 11.6, 12.2, 12.4, 10.8...

packed cell volume [44, 38, 31, 32, 35, 39, 36, 33, 29, 28, nan, ...

white blood cell count [7800.0, 6000.0, 7500.0, 6700.0, 7300.0, nan, ...

red blood cell count [5.2, nan, 3.9, 4.6, 4.4, 5.0, 4.0, 3.7, 3.8, ...

hypertension [yes, no, nan]

diabetes mellitus [yes, no, yes, \tno, \tyes, nan]

coronary artery disease [no, yes, \tno, nan]

appetite [good, poor, nan]

pedal edema [no, yes, nan]

anemia [no, yes, nan]

classification [ckd, ckd\t, notckd]

dtype: object

id [0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13,...

age [48.0, 7.0, 62.0, 51.0, 60.0, 68.0, 24.0, 52.0...

blood pressure [80.0, 50.0, 70.0, 90.0, nan, 100.0, 60.0, 110...

specific gravity [1.02, 1.01, 1.005, 1.015, nan, 1.025]

albumin [1.0, 4.0, 2.0, 3.0, 0.0, nan, 5.0]

sugar [0.0, 3.0, 4.0, 1.0, nan, 2.0, 5.0]

red blood cells [nan, normal, abnormal]

pus cell [normal, abnormal, nan]

pus cell clumps [notpresent, present, nan]

bacteria [notpresent, present, nan]

blood glucose random [121.0, nan, 423.0, 117.0, 106.0, 74.0, 100.0,...

blood urea [36.0, 18.0, 53.0, 56.0, 26.0, 25.0, 54.0, 31....

serum creatinine [1.2, 0.8, 1.8, 3.8, 1.4, 1.1, 24.0, 1.9, 7.2,...

sodium [nan, 111.0, 142.0, 104.0, 114.0, 131.0, 138.0...

potassium [nan, 2.5, 3.2, 4.0, 3.7, 4.2, 5.8, 3.4, 6.4, ...

hemoglobin [15.4, 11.3, 9.6, 11.2, 11.6, 12.2, 12.4, 10.8...

packed cell volume [44.0, 38.0, 31.0, 32.0, 35.0, 39.0, 36.0, 33....

white blood cell count [7800.0, 6000.0, 7500.0, 6700.0, 7300.0, nan, ...

red blood cell count [5.2, nan, 3.9, 4.6, 4.4, 5.0, 4.0, 3.7, 3.8, ...

hypertension [yes, no, nan]

diabetes mellitus [yes, no, nan]

coronary artery disease [no, yes, nan]

appetite [good, poor, nan]

pedal edema [no, yes, nan]

anemia [no, yes, nan]

classification [ckd, notckd]

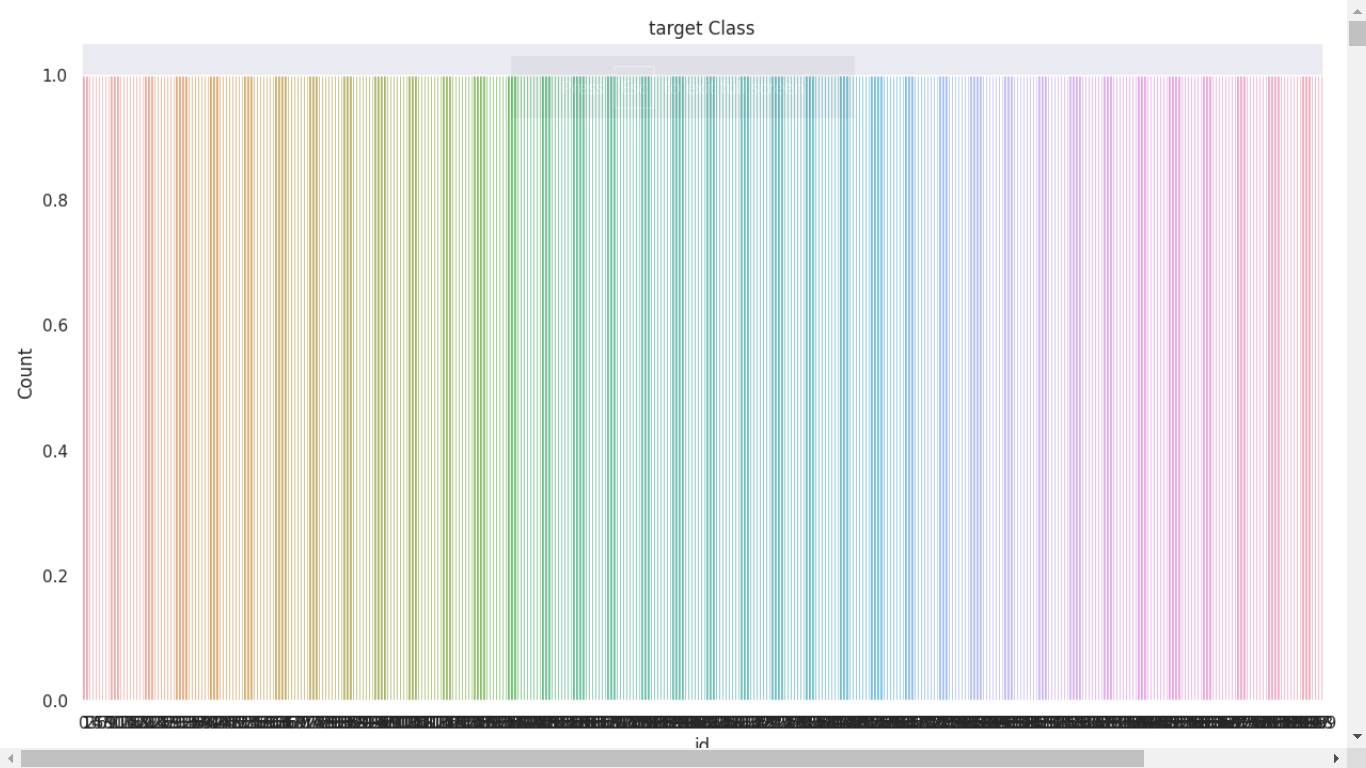
dtype: object

total numerical column : 14

['age', 'blood pressure', 'specific gravity', 'albumin', 'sugar', 'blood glucose random', 'blood urea', 'serum creatinine', 'sodium', 'potassium', 'hemoglobin', 'packed cell volume', 'white blood cell count', 'red blood cell count']

|  | **count** | **mean** | **std** | **min** | **25%** | **50%** | **75%** | **max** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **age** | 391.0 | 51.483376 | 17.169714 | 2.000 | 42.00 | 55.00 | 64.50 | 90.000 |
| **blood pressure** | 388.0 | 76.469072 | 13.683637 | 50.000 | 70.00 | 80.00 | 80.00 | 180.000 |
| **specific gravity** | 353.0 | 1.017408 | 0.005717 | 1.005 | 1.01 | 1.02 | 1.02 | 1.025 |
| **albumin** | 354.0 | 1.016949 | 1.352679 | 0.000 | 0.00 | 0.00 | 2.00 | 5.000 |
| **sugar** | 351.0 | 0.450142 | 1.099191 | 0.000 | 0.00 | 0.00 | 0.00 | 5.000 |
| **blood glucose random** | 356.0 | 148.036517 | 79.281714 | 22.000 | 99.00 | 121.00 | 163.00 | 490.000 |
| **blood urea** | 381.0 | 57.425722 | 50.503006 | 1.500 | 27.00 | 42.00 | 66.00 | 391.000 |
| **serum creatinine** | 383.0 | 3.072454 | 5.741126 | 0.400 | 0.90 | 1.30 | 2.80 | 76.000 |
| **sodium** | 313.0 | 137.528754 | 10.408752 | 4.500 | 135.00 | 138.00 | 142.00 | 163.000 |
| **potassium** | 312.0 | 4.627244 | 3.193904 | 2.500 | 3.80 | 4.40 | 4.90 | 47.000 |
| **hemoglobin** | 348.0 | 12.526437 | 2.912587 | 3.100 | 10.30 | 12.65 | 15.00 | 17.800 |
| **packed cell volume** | 329.0 | 38.884498 | 8.990105 | 9.000 | 32.00 | 40.00 | 45.00 | 54.000 |
| **white blood cell count** | 294.0 | 8406.122449 | 2944.474190 | 2200.000 | 6500.00 | 8000.00 | 9800.00 | 26400.000 |
| **red blood cell count** | 269.0 | 4.707435 | 1.025323 | 2.100 | 3.90 | 4.80 | 5.40 | 8.000 |

|  | **count** | **unique** | **top** | **freq** |
| --- | --- | --- | --- | --- |
| **red blood cells** | 248 | 2 | normal | 201 |
| **pus cell** | 335 | 2 | normal | 259 |
| **pus cell clumps** | 396 | 2 | notpresent | 354 |
| **bacteria** | 396 | 2 | notpresent | 374 |
| **hypertension** | 398 | 2 | no | 251 |
| **diabetes mellitus** | 398 | 2 | no | 261 |
| **coronary artery disease** | 398 | 2 | no | 364 |
| **appetite** | 399 | 2 | good | 317 |
| **pedal edema** | 399 | 2 | no | 323 |
| **anemia** | 399 | 2 | no | 339 |
| **classification** | 400 | 2 | ckd | 250 |



<ipython-input-31-185ffc31275b>:1: FutureWarning: The default value of numeric\_only in DataFrame.corr is deprecated. In a future version, it will default to False. Select only valid columns or specify the value of numeric\_only to silence this warning.

corr\_df = df.corr()

<ipython-input-31-185ffc31275b>:4: FutureWarning: The default value of numeric\_only in DataFrame.corr is deprecated. In a future version, it will default to False. Select only valid columns or specify the value of numeric\_only to silence this warning.

print(df.corr())

id age blood pressure specific gravity \

id 1.000000 -0.185308 -0.245744 0.642156

age -0.185308 1.000000 0.159480 -0.191096

blood pressure -0.245744 0.159480 1.000000 -0.218836

specific gravity 0.642156 -0.191096 -0.218836 1.000000

albumin -0.541993 0.122091 0.160689 -0.469760

sugar -0.283416 0.220866 0.222576 -0.296234

blood glucose random -0.338673 0.244992 0.160193 -0.374710

blood urea -0.307175 0.196985 0.188517 -0.314295

serum creatinine -0.268683 0.132531 0.146222 -0.361473

sodium 0.364251 -0.100046 -0.116422 0.412190

potassium -0.092347 0.058377 0.075151 -0.072787

hemoglobin 0.640298 -0.192928 -0.306540 0.602582

packed cell volume 0.630019 -0.242119 -0.326319 0.603560

white blood cell count -0.198641 0.118339 0.029753 -0.236215

red blood cell count 0.605072 -0.268896 -0.261936 0.579476

albumin sugar blood glucose random blood urea \

id -0.541993 -0.283416 -0.338673 -0.307175

age 0.122091 0.220866 0.244992 0.196985

blood pressure 0.160689 0.222576 0.160193 0.188517

specific gravity -0.469760 -0.296234 -0.374710 -0.314295

albumin 1.000000 0.269305 0.379464 0.453528

sugar 0.269305 1.000000 0.717827 0.168583

blood glucose random 0.379464 0.717827 1.000000 0.143322

blood urea 0.453528 0.168583 0.143322 1.000000

serum creatinine 0.399198 0.223244 0.114875 0.586368

sodium -0.459896 -0.131776 -0.267848 -0.323054

potassium 0.129038 0.219450 0.066966 0.357049

hemoglobin -0.634632 -0.224775 -0.306189 -0.610360

packed cell volume -0.611891 -0.239189 -0.301385 -0.607621

white blood cell count 0.231989 0.184893 0.150015 0.050462

red blood cell count -0.566437 -0.237448 -0.281541 -0.579087

serum creatinine sodium potassium hemoglobin \

id -0.268683 0.364251 -0.092347 0.640298

age 0.132531 -0.100046 0.058377 -0.192928

blood pressure 0.146222 -0.116422 0.075151 -0.306540

specific gravity -0.361473 0.412190 -0.072787 0.602582

albumin 0.399198 -0.459896 0.129038 -0.634632

sugar 0.223244 -0.131776 0.219450 -0.224775

blood glucose random 0.114875 -0.267848 0.066966 -0.306189

blood urea 0.586368 -0.323054 0.357049 -0.610360

serum creatinine 1.000000 -0.690158 0.326107 -0.401670

sodium -0.690158 1.000000 0.097887 0.365183

potassium 0.326107 0.097887 1.000000 -0.133746

hemoglobin -0.401670 0.365183 -0.133746 1.000000

packed cell volume -0.404193 0.376914 -0.163182 0.895382

white blood cell count -0.006390 0.007277 -0.105576 -0.169413

red blood cell count -0.400852 0.344873 -0.158309 0.798880

packed cell volume white blood cell count \

id 0.630019 -0.198641

age -0.242119 0.118339

blood pressure -0.326319 0.029753

specific gravity 0.603560 -0.236215

albumin -0.611891 0.231989

sugar -0.239189 0.184893

blood glucose random -0.301385 0.150015

blood urea -0.607621 0.050462

serum creatinine -0.404193 -0.006390

sodium 0.376914 0.007277

potassium -0.163182 -0.105576

hemoglobin 0.895382 -0.169413

packed cell volume 1.000000 -0.197022

white blood cell count -0.197022 1.000000

red blood cell count 0.791625 -0.158163

red blood cell count

id 0.605072

age -0.268896

blood pressure -0.261936

specific gravity 0.579476

albumin -0.566437

sugar -0.237448

blood glucose random -0.281541

blood urea -0.579087

serum creatinine -0.400852

sodium 0.344873

potassium -0.158309

hemoglobin 0.798880

packed cell volume 0.791625

white blood cell count -0.158163

red blood cell count 1.000000

