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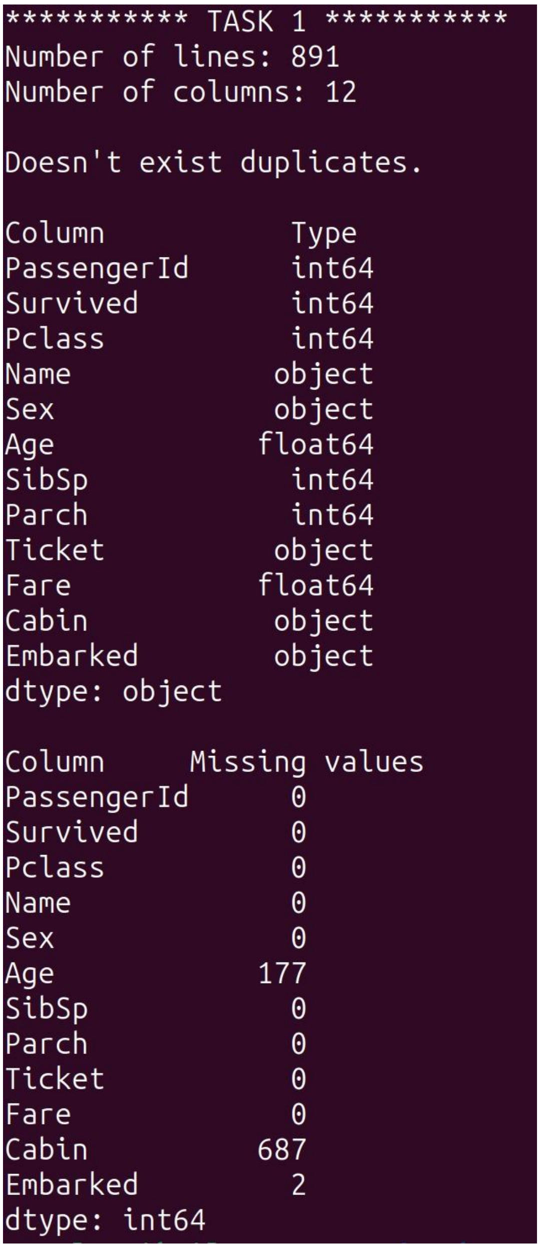
Readme Project PCLP3

The link of the project from the github is the following:
https://github.com/Mhail027/Proiect_PCLP3

A. TASK 1

Reads the dataset and store it in a dataframe using the function read_csv from the module “panda”. After:

- determinate the number of lines and of columns from dataset
- verify if the dataset has duplicate rows
- find the type of the values from every column
- find the number of missing values from every column



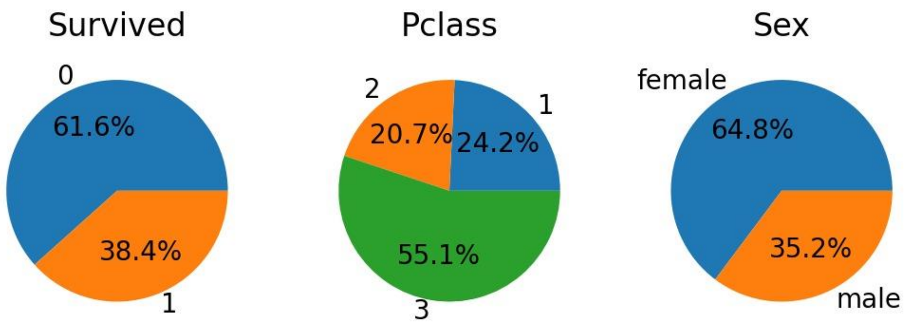
```
*********** TASK 1 ***********
Number of lines: 891
Number of columns: 12

Doesn't exist duplicates.

Column           Type
PassengerId      int64
Survived         int64
Pclass           int64
Name            object
Sex             object
Age            float64
SibSp            int64
Parch            int64
Ticket          object
Fare           float64
Cabin           object
Embarked        object
dtype: object

Column     Missing values
PassengerId      0
Survived         0
Pclass           0
Name             0
Sex              0
Age            177
SibSp            0
Parch            0
Ticket           0
Fare             0
Cabin          687
Embarked         2
dtype: int64
```

B. TASK 2

Process the columns “Survived”, “Pclass” and “Sex”. For every processed column is made a graphic of type pie. **The operation of proessing a column includes the next steps:**

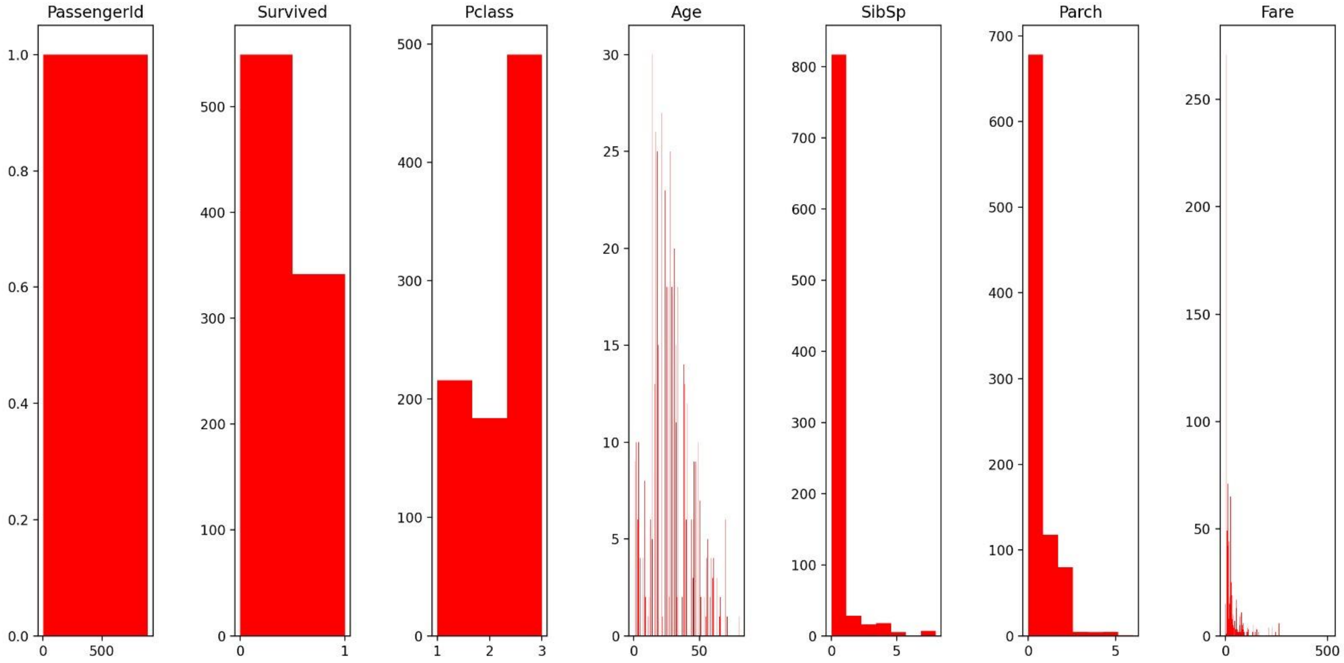
- find all the options / values from the column

- find of how many times every optios appears in the column



C. TASK 3

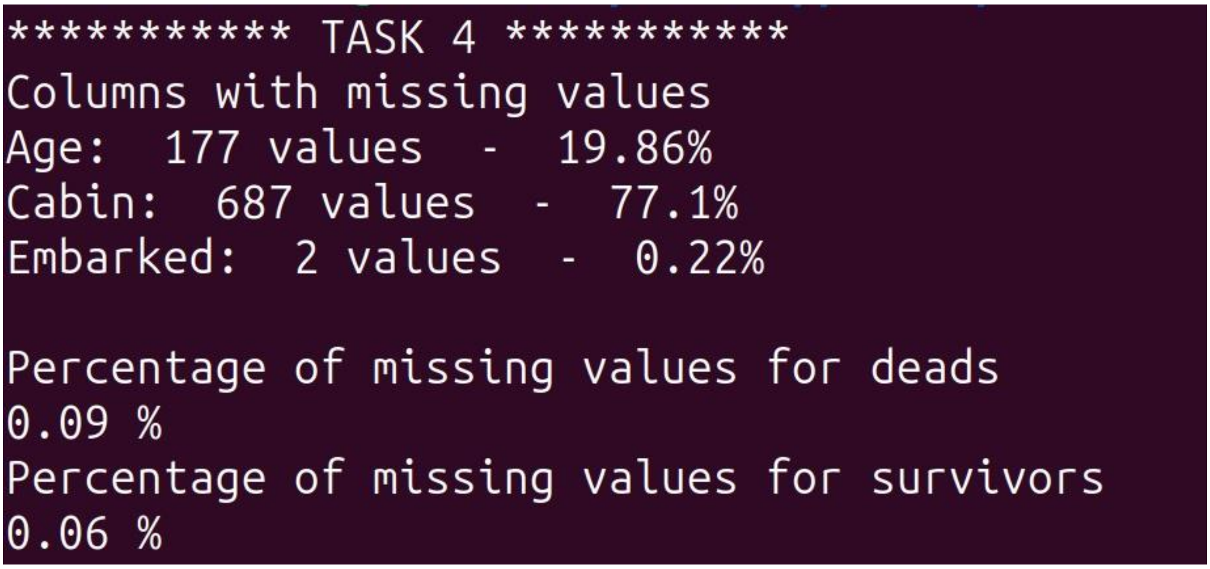
Process the columns which have just numerical values. For every processed column is made a histogram.



D. TASK 4

Find the number of missing values from every column. For every column which has holes, is printed on the screen how many they are and the percentage of holes from all values which should be.

After, find the numbers of characteristics / values which are missing for the persons which survived, respectively for the people that died. On the screen, we print the percetage of missing values from all values which should be for every class from the category "Survived".



```
*********** TASK 4 ***********
Columns with missing values
Age:  177 values  -  19.86%
Cabin:  687 values  -  77.1%
Embarked:  2 values  -  0.22%

Percentage of missing values for deads
0.09 %
Percentage of missing values for survivors
0.06 %
```

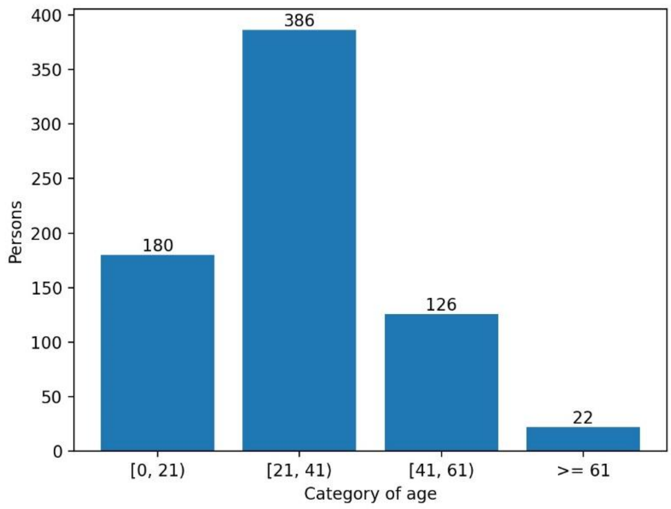
E. TASK 5

Create a list which contains the category of age for every person. The categories of age are:

- [0, 21) years -> category 0
- [21, 41) years -> category 1
- [41, 61) years -> category 2
- over 61 years -> category 3

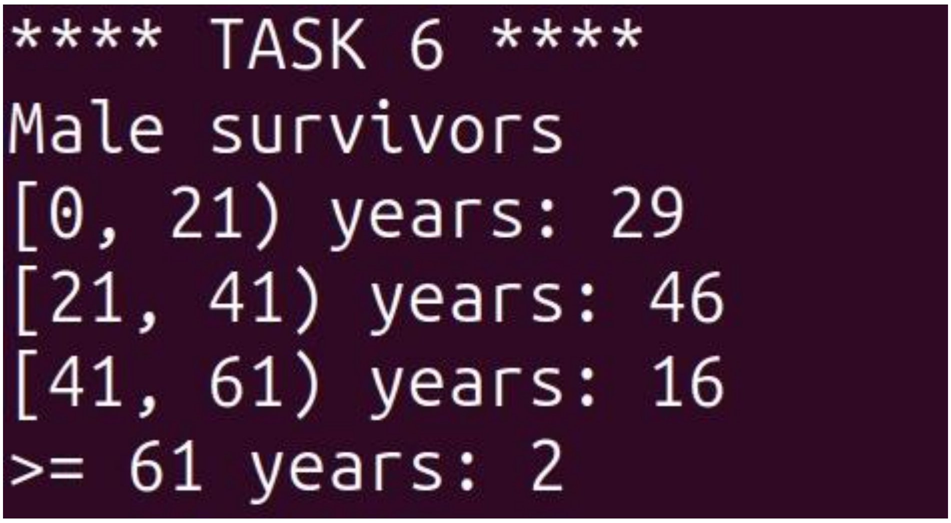
This list is added in the dataframe as a new column. After we do this, we count the number of persons from every category of age and make a graphic which contains these informations.

The modified dataframe is saved in the file with the next name : "train_after_task_5.csv".

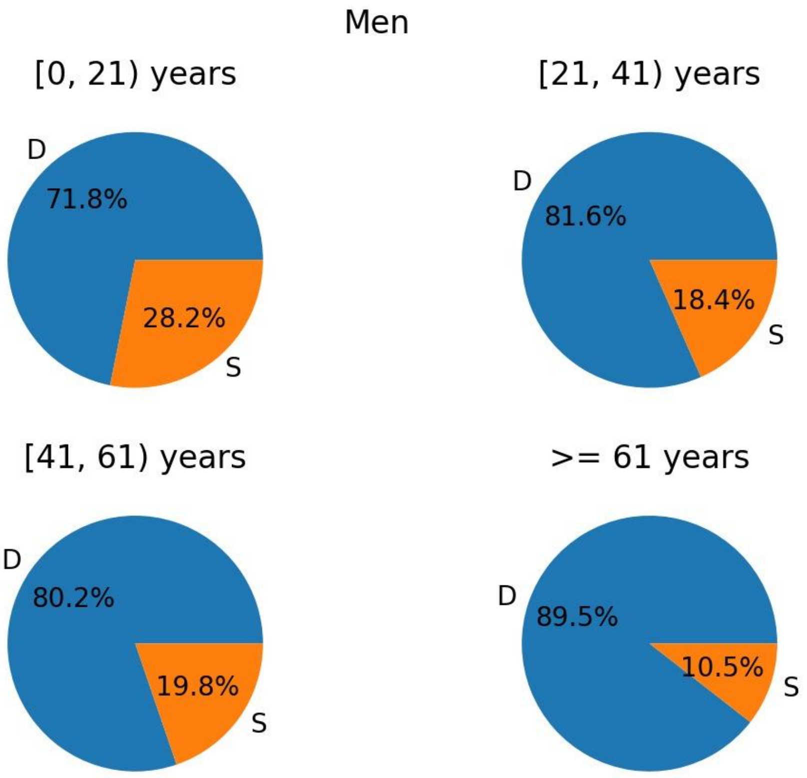


F. TASK 6

Add the column “Category of age” in dataframe and count how many male survived and died in every category of age. Print the number of male survivors on screen, for every category, and make a graphic with this informations.



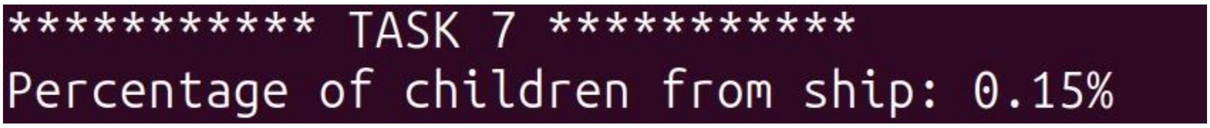
```
**** TASK 6 ****
Male survivors
[0, 21) years: 29
[21, 41) years: 46
[41, 61) years: 16
>= 61 years: 2
```



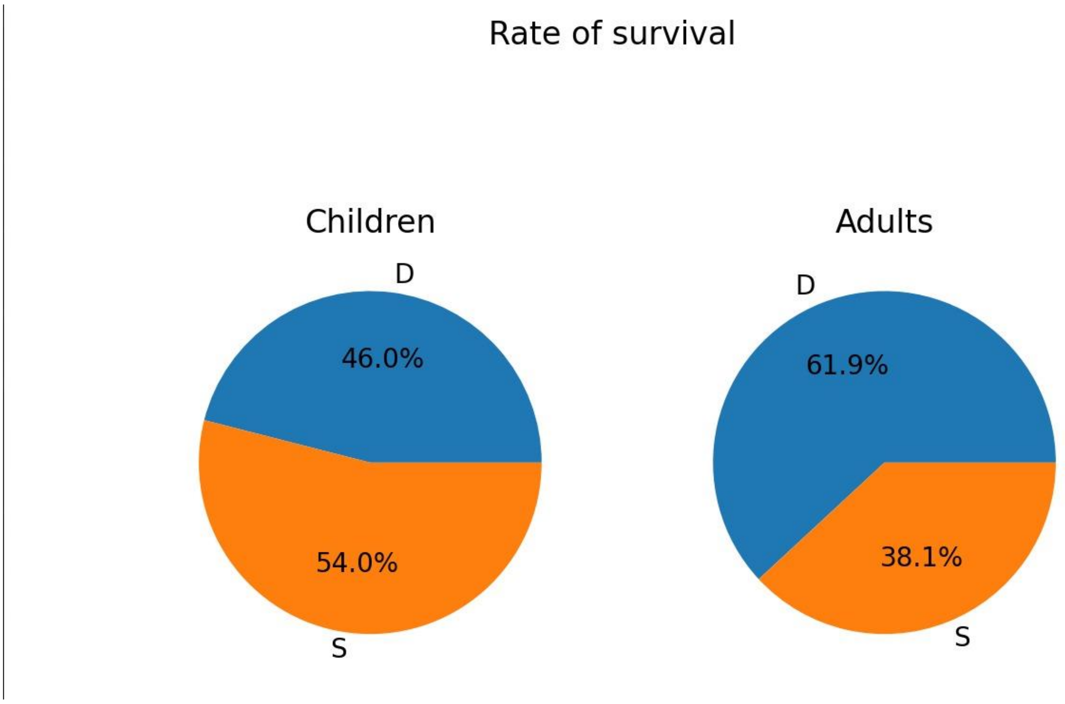
G. TASK 7

Find the number of children (< 18 years) and adults which survived and died. Calculate the percentege of children from the ship and print the result on screen.

After, we do a graphic of type pie which conatins the informations about the adults and their existence after Titanic. We do, the same thing for children.



```
*********** TASK 7 ***********
Percentage of children from ship: 0.15%
```



H. TASK 8

We fill up the holes from the dataframe. We have 3 columns with missing values: “Age”, “Cabin”, “Embarked”.

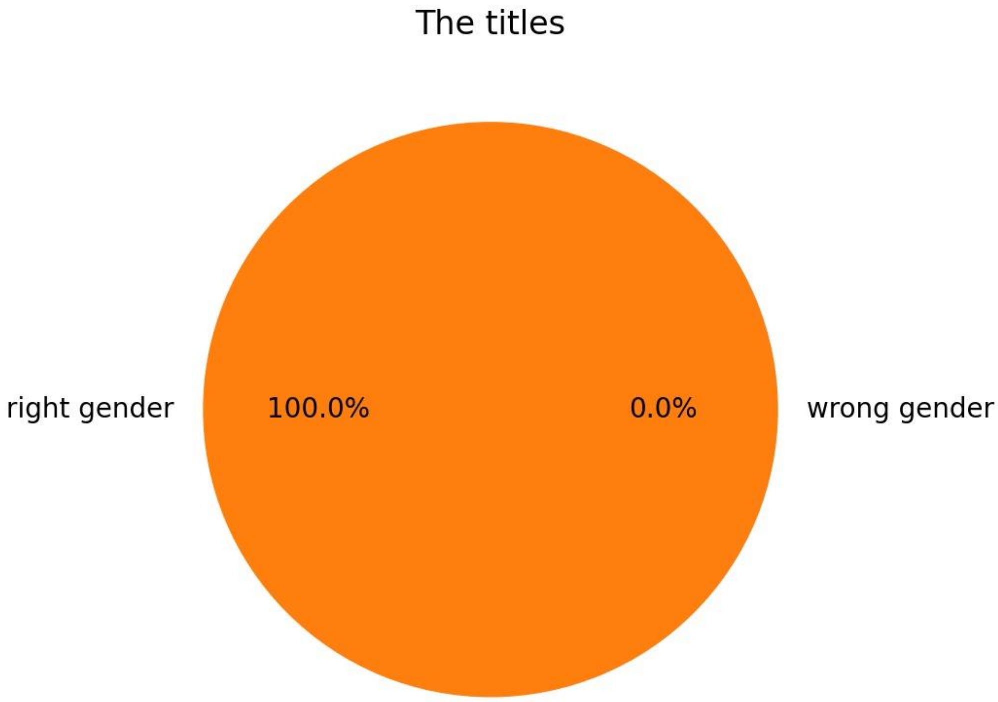
Age - We calculte the medium age for a survivor and for a person who died. If a person survived, but we don’t know his age, we put the medium age of a survivor. The same thing is done and for a person who died, but have hasn’t the age known.

Cabin, Embarked - Because these columns have string values, we must work a little differently . For every column, firstly we determinate the most frequent option of survivors and fill the survivors’s holes from the collum. Secondly, we do the same thing for the person which, unfortunately, died.

The completed dataframe is saved in the file with the next name : “train_after_task_8.csv”.

I. TASK 9

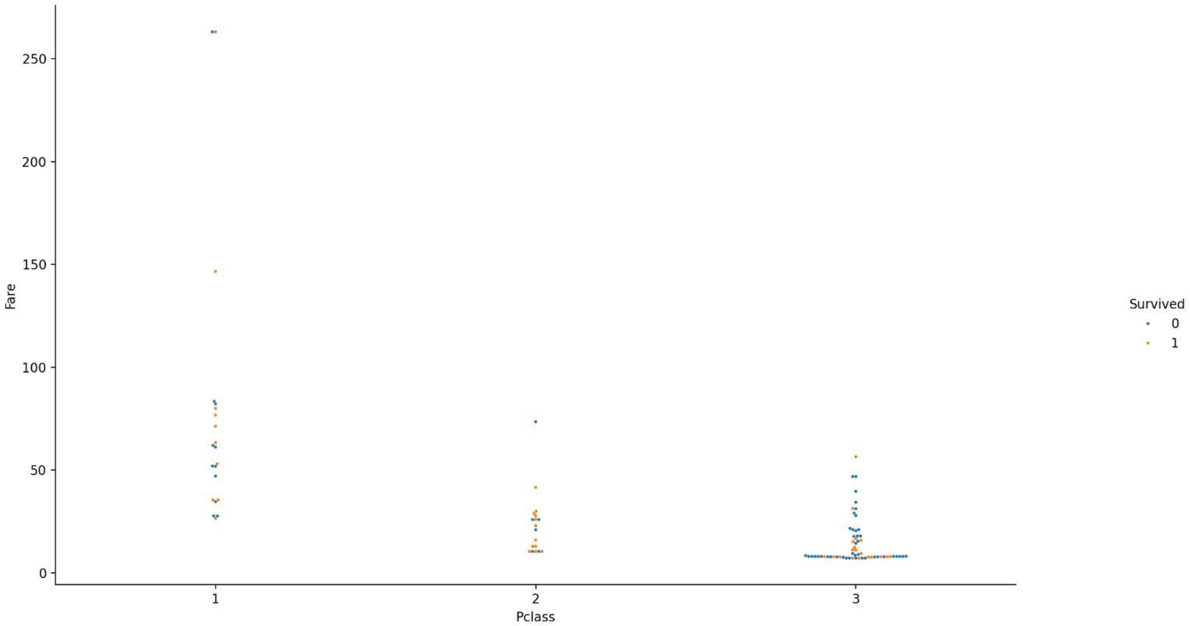
Split the column “Name” to do a column with the titles of the people. We do 3 lists: one with the titles for men, another with the titles for women, and the last with the neutral titles. We go throught the column of “Title” and “Sex” and count the number of worng and right pairs / titles. We plot the results.



J. TASK 10

Take first 100 persons from the dataset and do a graphic with the columns: “Survived”, “Pclass” and “Fare”. The purpose of this graphic is to analyze how the class and the fare influnenced the life of the persons.

The fare didn't influenced much, but the class yes. We see an increasing rate of death from second class to first class and from first clsss to third class.


Fare
Pclass
Survived