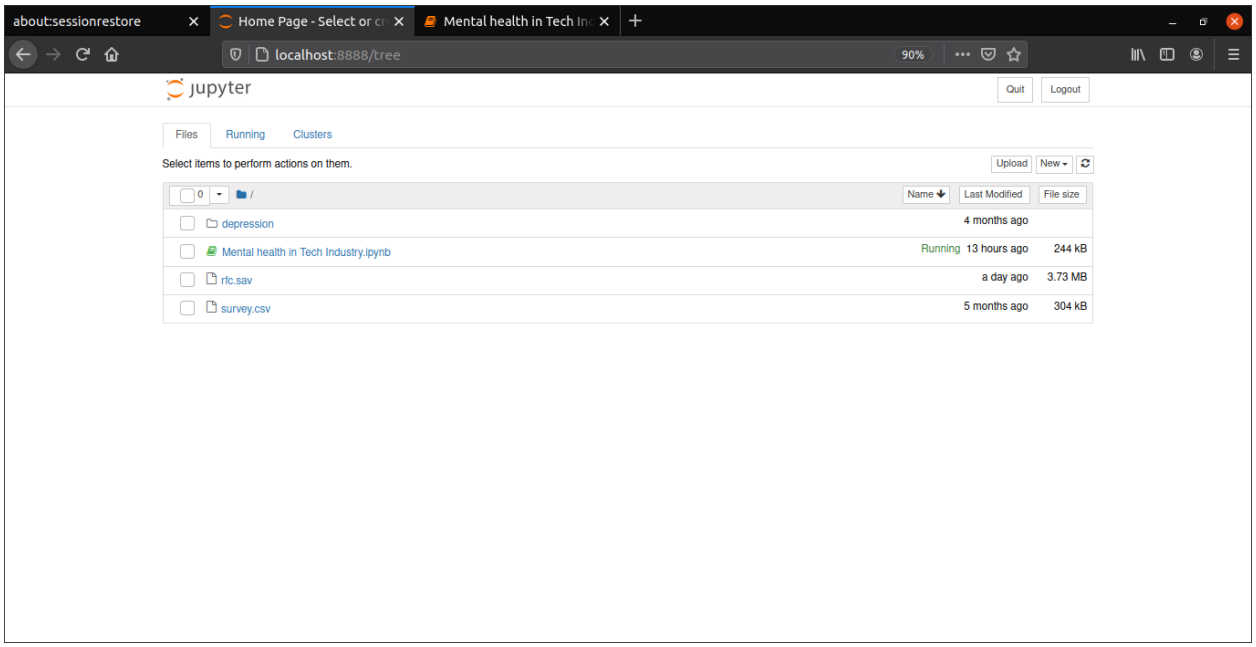
Name: Colin Mburugu

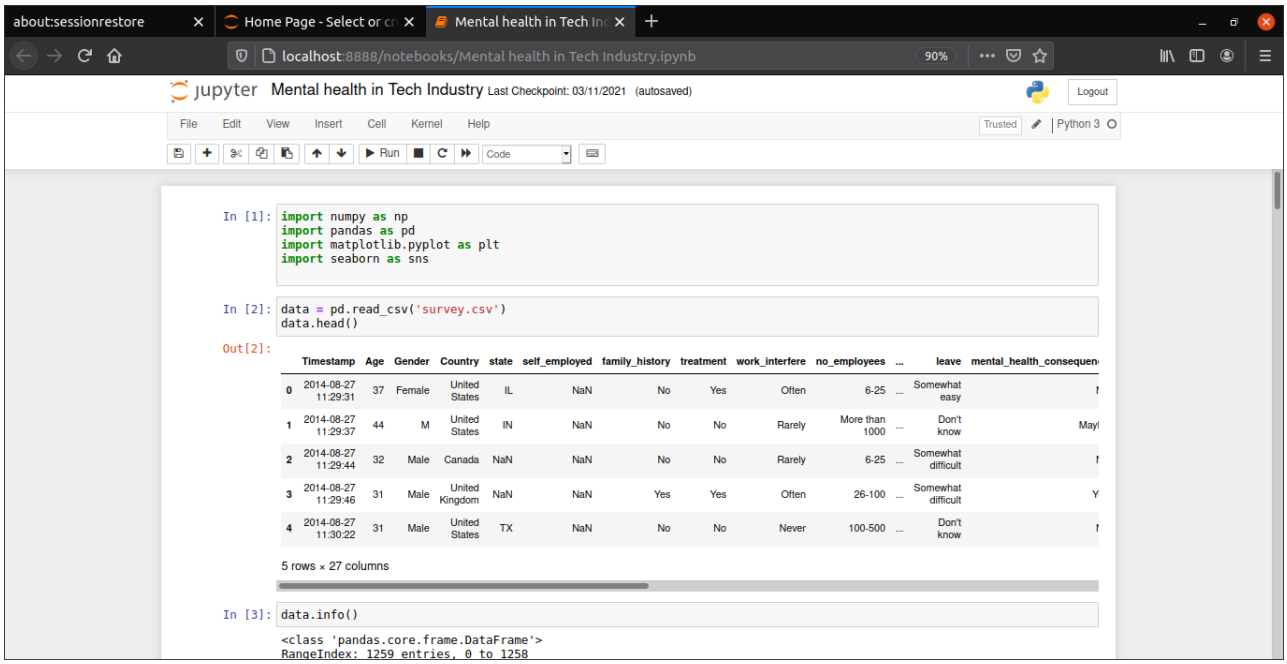
Batch: LISUMO1

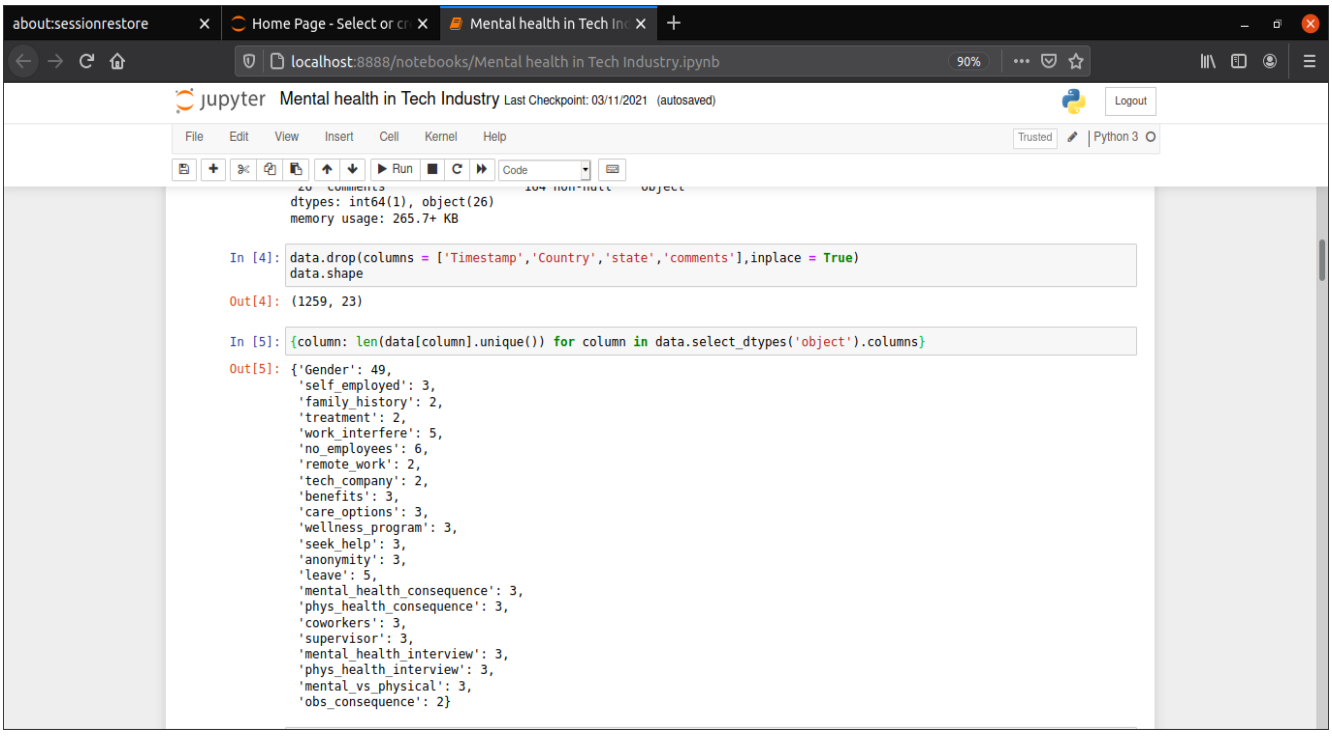
Submission_date : 4/07/2021

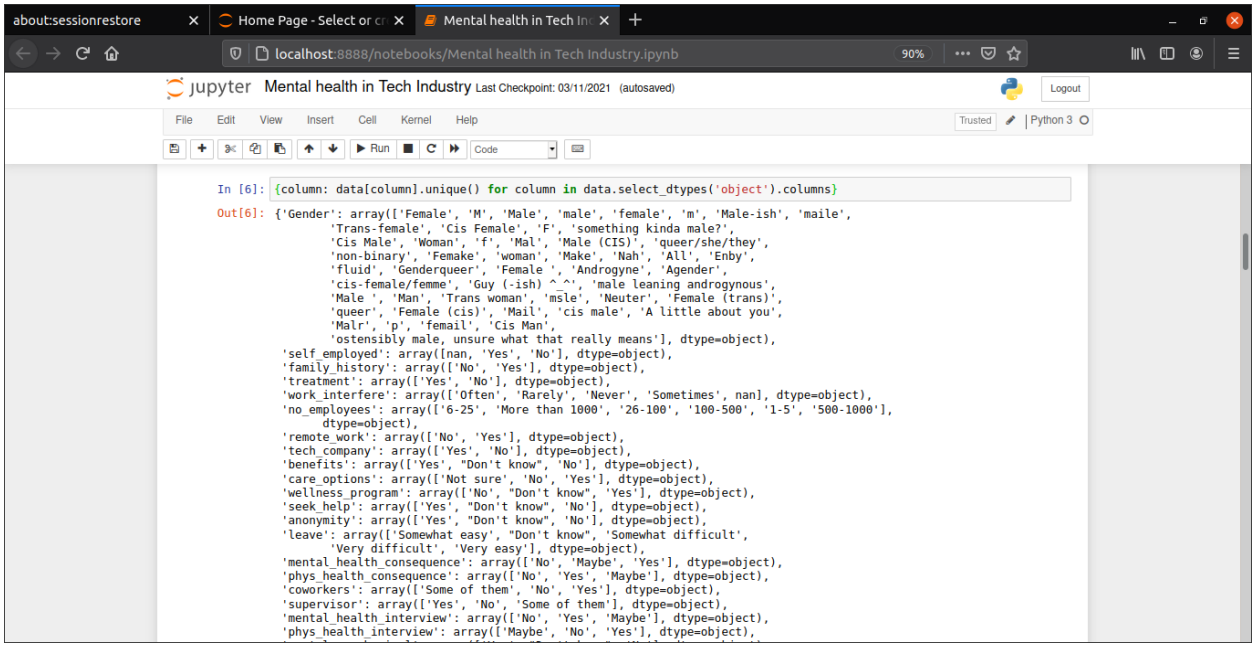
Submission_to : Data Glacier



**Jupyter notebook screenshots showing model creation process**:

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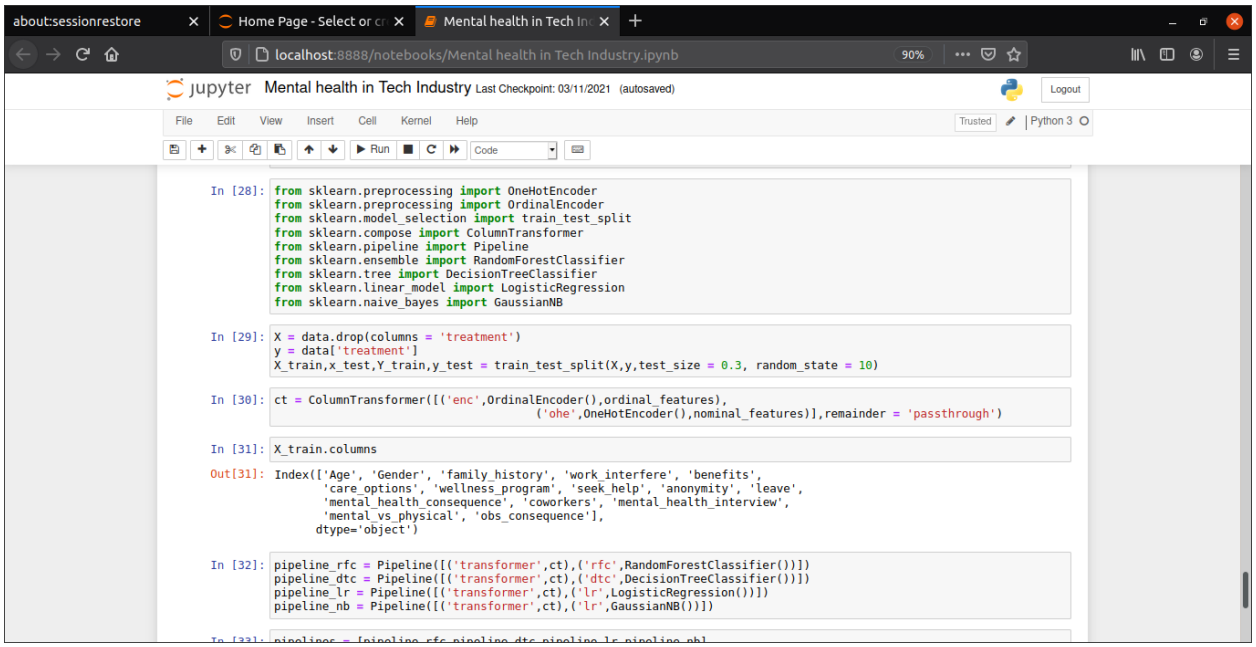
Python 3
Run
Code
In [6]: {column: data[column].unique() for column in data.select_dtypes('object').columns}
Out[6]: {'Gender': array(['Female', 'M', 'Male', 'male', 'female', 'm', 'Male-ish', 'maile',
'Trans-female', 'Cis Female', 'F', 'something kinda male?',
'Cis Male', 'Woman', 'f', 'Mal', 'Male (CIS)', 'queer/she/they',
'non-binary', 'Femake', 'woman', 'Make', 'Nah', 'All', 'Enby',
'fluid', 'Genderqueer', 'Female ', 'Androgyne', 'Agender',
'cis-female/femme', 'Guy (-ish) ^_^', 'male leaning androgynous',
'Male ', 'Man', 'Trans woman', 'msle', 'Neuter', 'Female (trans)',
'queer', 'Female (cis)', 'Mail', 'cis male', 'A little about you',
'Malr', 'p', 'femail', 'Cis Man',
'ostensibly male, unsure what that really means'], dtype=object),
'self_employed': array([nan, 'Yes', 'No'], dtype=object),
'family_history': array(['No', 'Yes'], dtype=object),
'treatment': array(['Yes', 'No'], dtype=object),
'work_interfere': array(['Often', 'Rarely', 'Never', 'Sometimes', nan], dtype=object),
'no_employees': array(['6-25', 'More than 1000', '26-100', '100-500', '1-5', '500-1000'],
dtype=object),
'remote_work': array(['No', 'Yes'], dtype=object),
'tech_company': array(['Yes', 'No'], dtype=object),
'benefits': array(['Yes', "Don't know", 'No'], dtype=object),
'care_options': array(['Not sure', 'No', 'Yes'], dtype=object),
'wellness_program': array(['No', "Don't know", 'Yes'], dtype=object),
'seek_help': array(['Yes', "Don't know", 'No'], dtype=object),
'anonymity': array(['Yes', "Don't know", 'No'], dtype=object),
'leave': array(['Somewhat easy', "Don't know", 'Somewhat difficult',
'Very difficult', 'Very easy'], dtype=object),
'mental_health_consequence': array(['No', 'Maybe', 'Yes'], dtype=object),
'phys_health_consequence': array(['No', 'Yes', 'Maybe'], dtype=object),
'coworkers': array(['Some of them', 'No', 'Yes'], dtype=object),
'supervisor': array(['Yes', 'No', 'Some of them'], dtype=object),
'mental_health_interview': array(['No', 'Yes', 'Maybe'], dtype=object),
'phys_health_interview': array(['Maybe', 'No', 'Yes'], dtype=object),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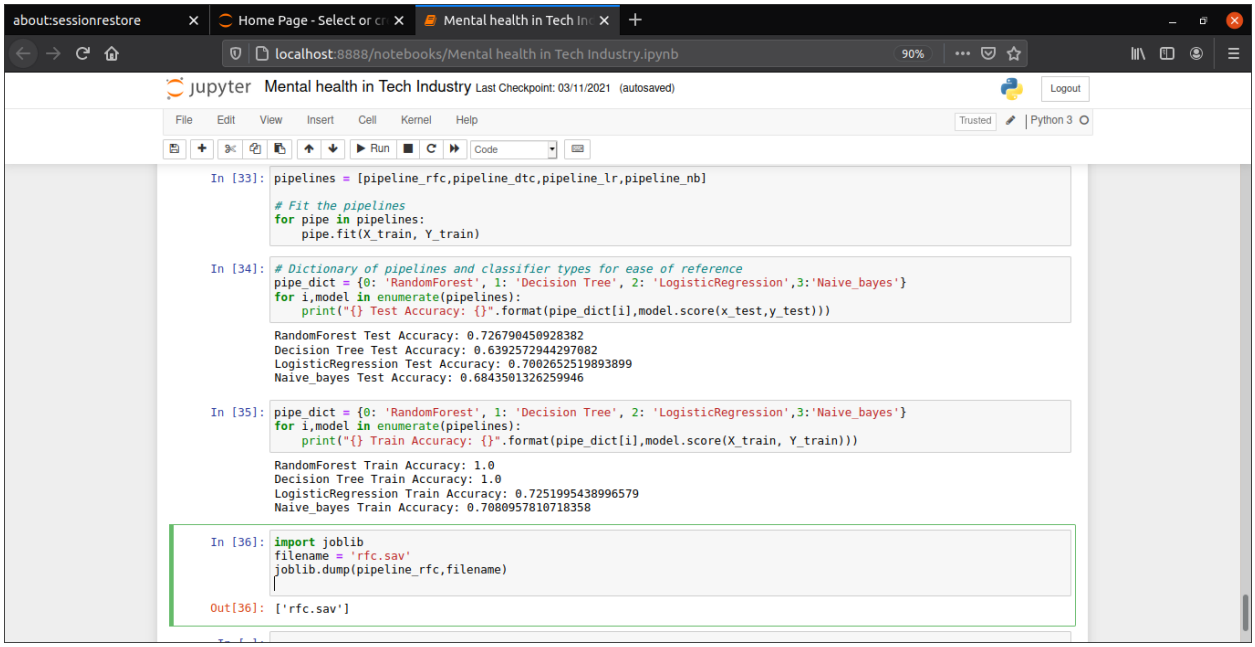
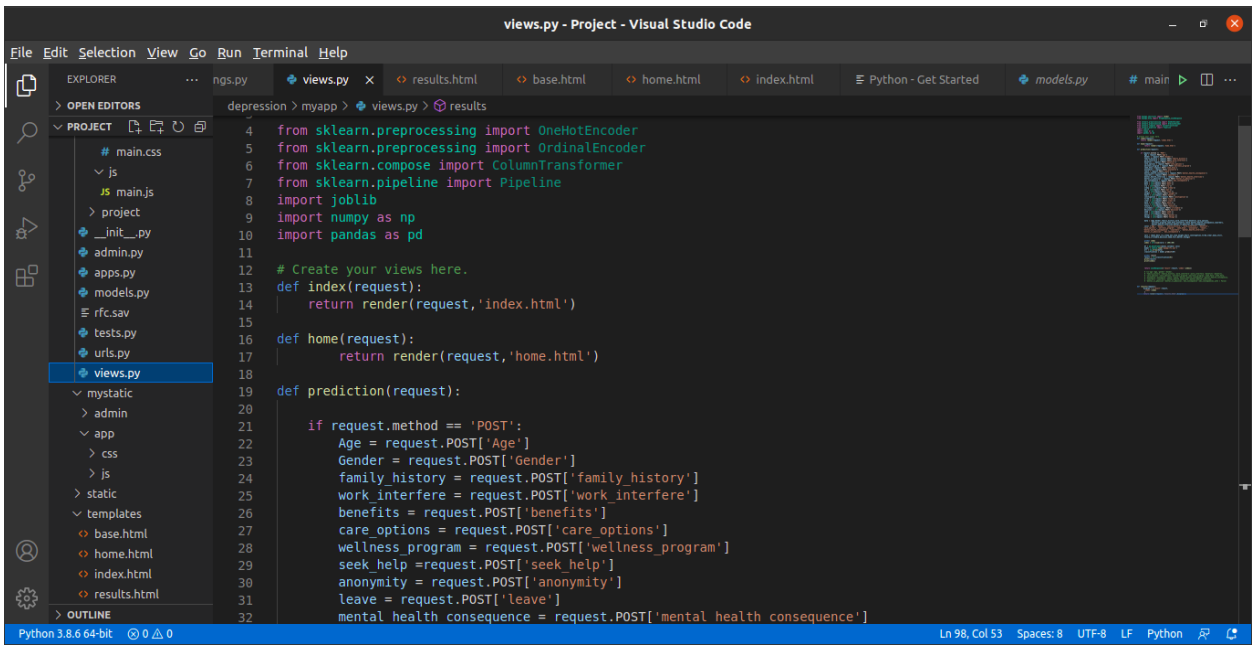
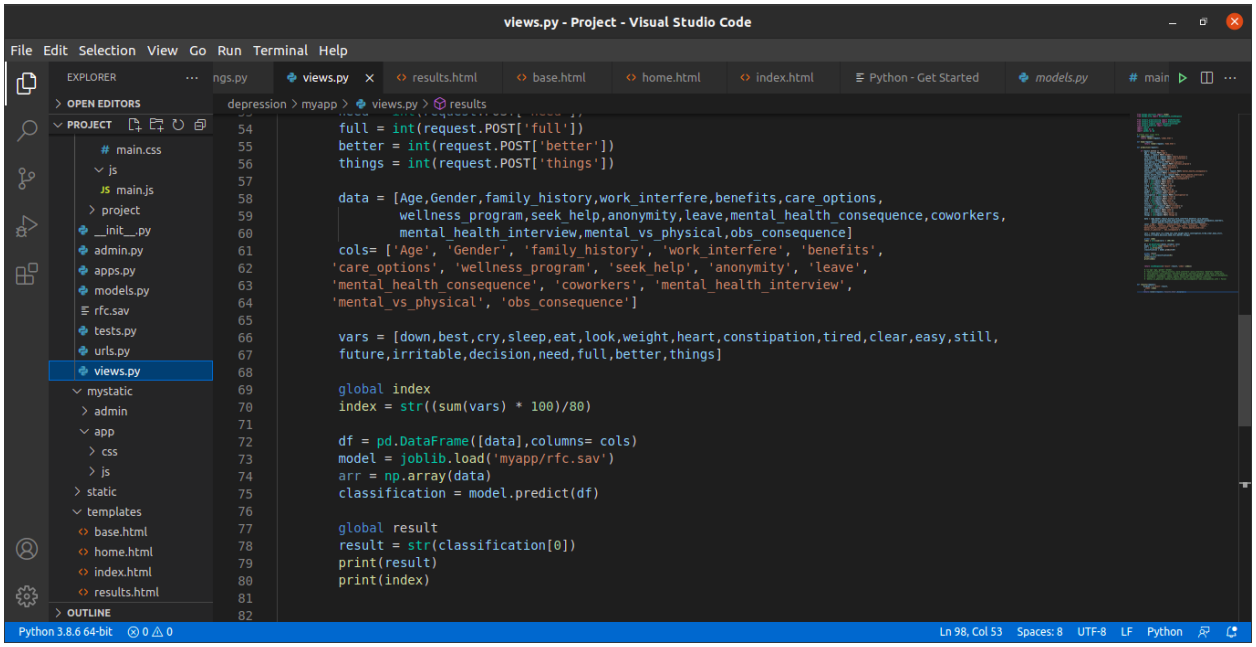
Logout
File Edit View Insert Cell Kernel Help
Trusted
Python 3
Run
Code
In [28]: from sklearn.preprocessing import OneHotEncoder
from sklearn.preprocessing import OrdinalEncoder
from sklearn.model_selection import train_test_split
from sklearn.compose import ColumnTransformer
from sklearn.pipeline import Pipeline
from sklearn.ensemble import RandomForestClassifier
from sklearn.tree import DecisionTreeClassifier
from sklearn.linear_model import LogisticRegression
from sklearn.naive_bayes import GaussianNB
In [29]: X = data.drop(columns = 'treatment')
y = data['treatment']
X_train,x_test,Y_train,y_test = train_test_split(X,y,test_size = 0.3, random_state = 10)
In [30]: ct = ColumnTransformer([('enc',OrdinalEncoder(),ordinal_features),
('ohe',OneHotEncoder(),nominal_features)],remainder = 'passthrough')
In [31]: X_train.columns
Out[31]: Index(['Age', 'Gender', 'family_history', 'work_interfere', 'benefits',
'care_options', 'wellness_program', 'seek_help', 'anonymity', 'leave',
'mental_health_consequence', 'coworkers', 'mental_health_interview',
'mental_vs_physical', 'obs_consequence'],
dtype='object')
In [32]: pipeline_rfc = Pipeline([('transformer',ct),('rfc',RandomForestClassifier())])
pipeline_dtc = Pipeline([('transformer',ct),('dtc',DecisionTreeClassifier())])
pipeline_lr = Pipeline([('transformer',ct),('lr',LogisticRegression())])
pipeline_nb = Pipeline([('transformer',ct),('lr',GaussianNB())])

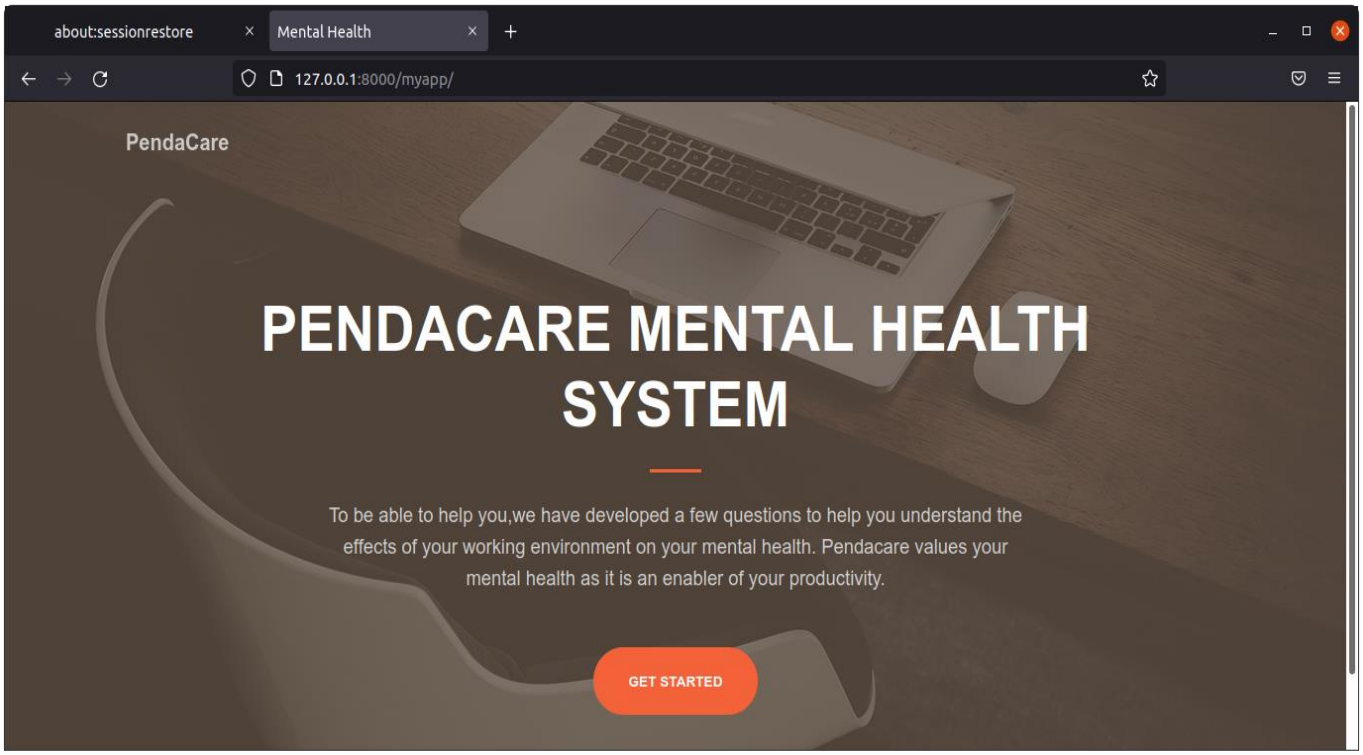



**VS Code Screenshots showing model deployment process**:

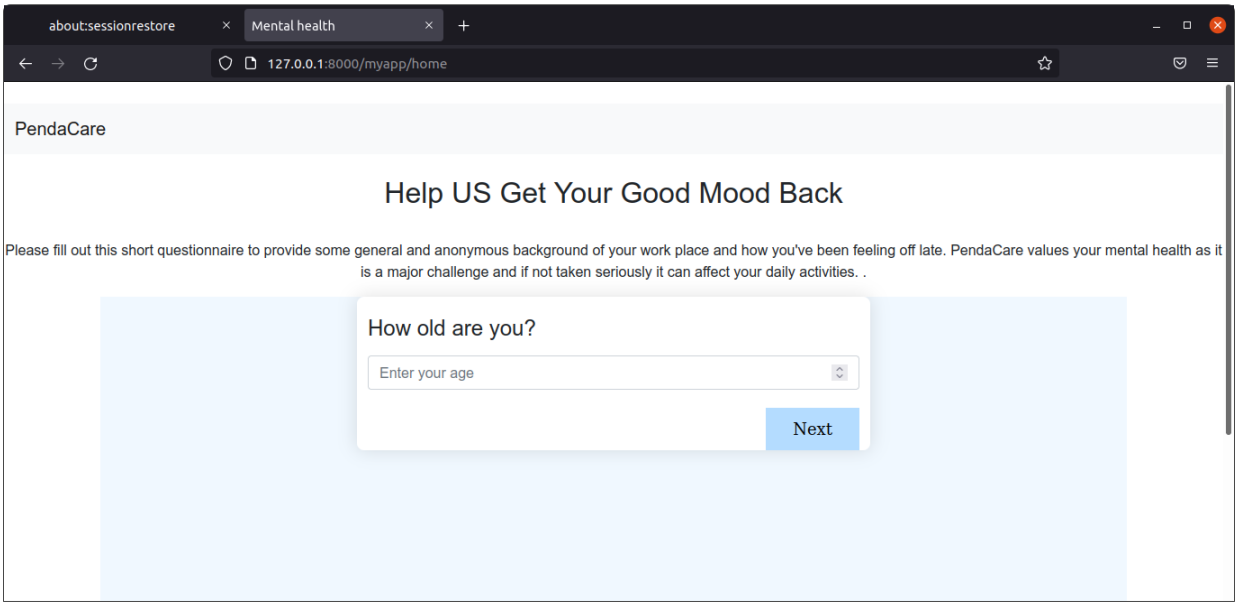


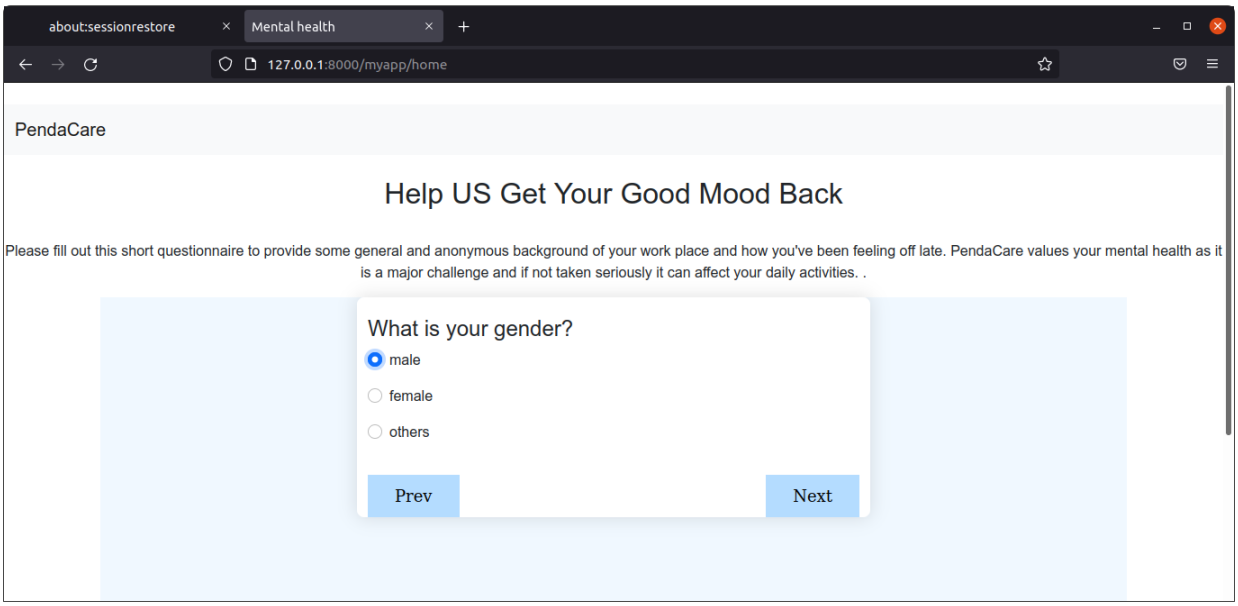


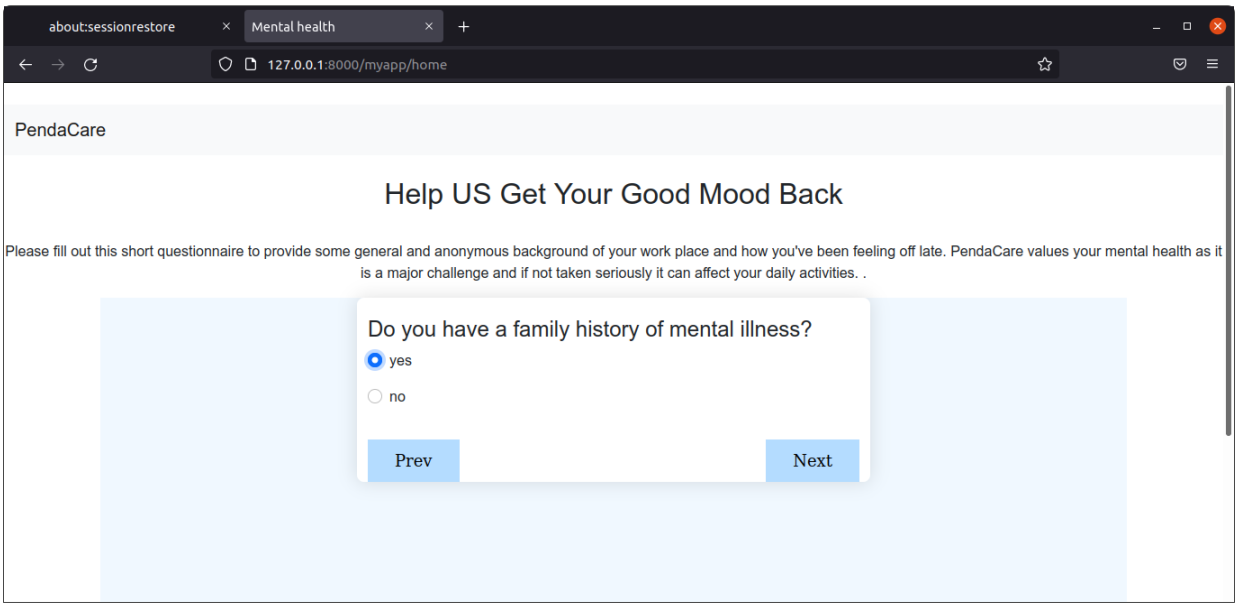

**Landing Page for the model**:

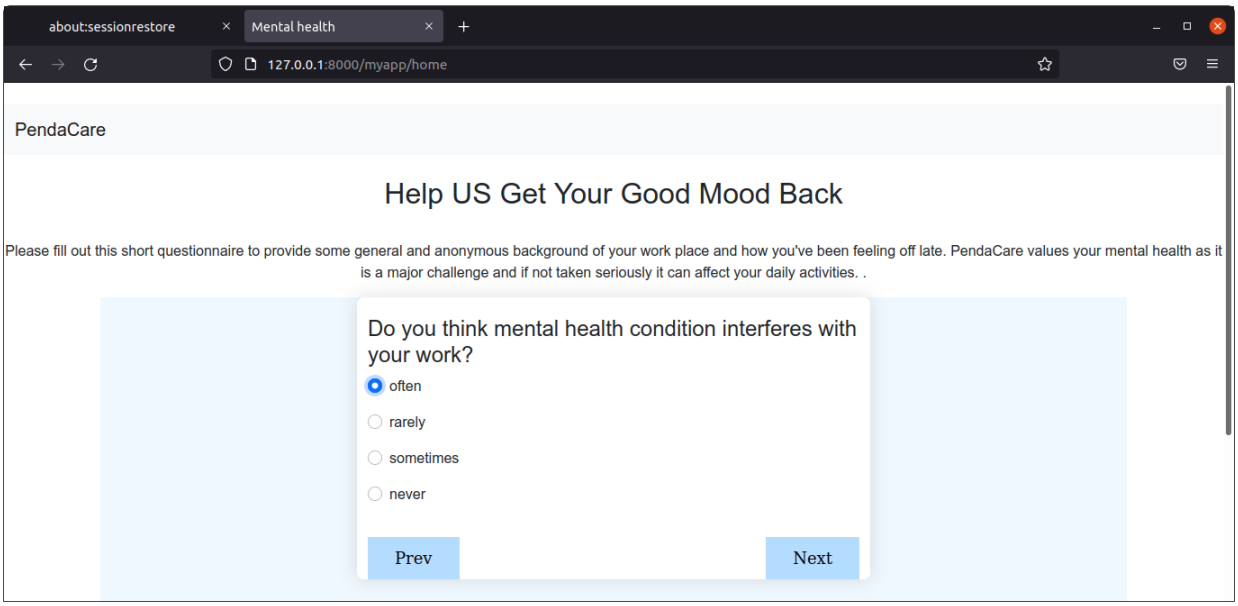


**Sample questions that will be interacting  with the model** :



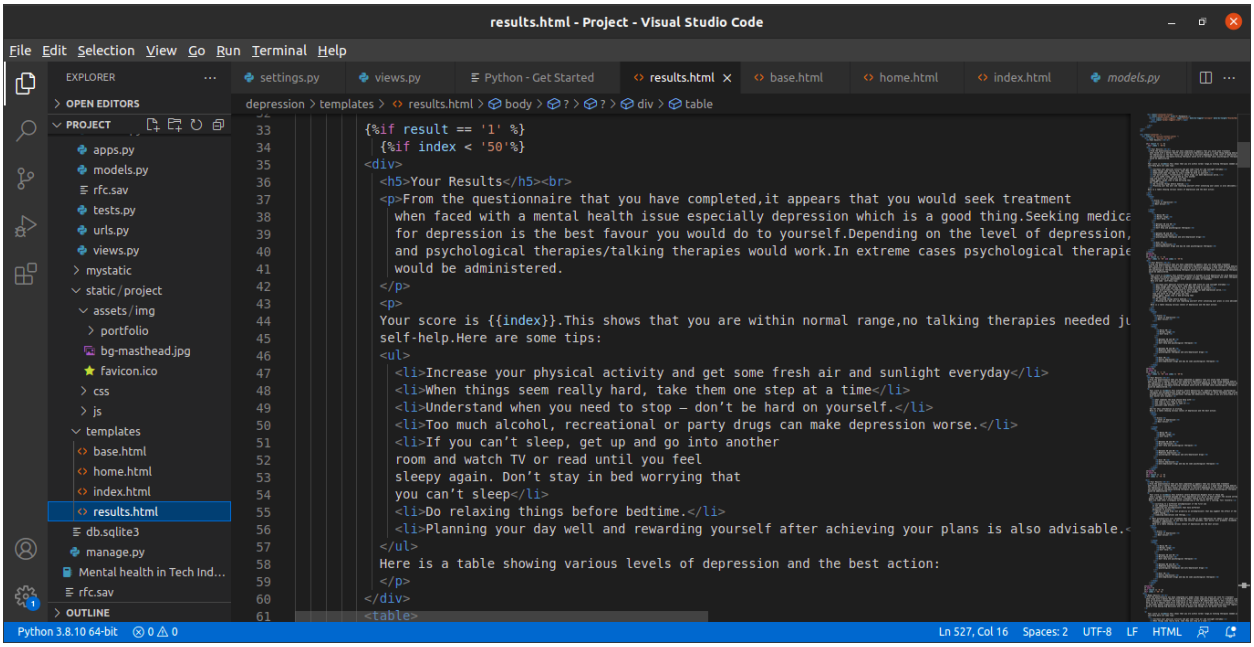





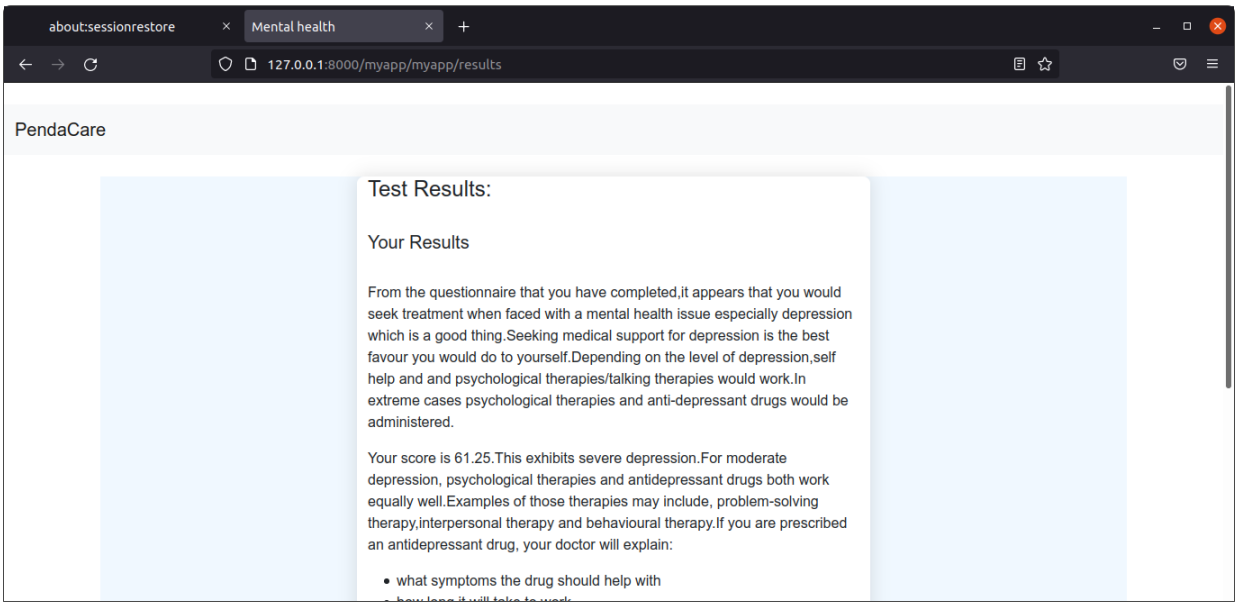



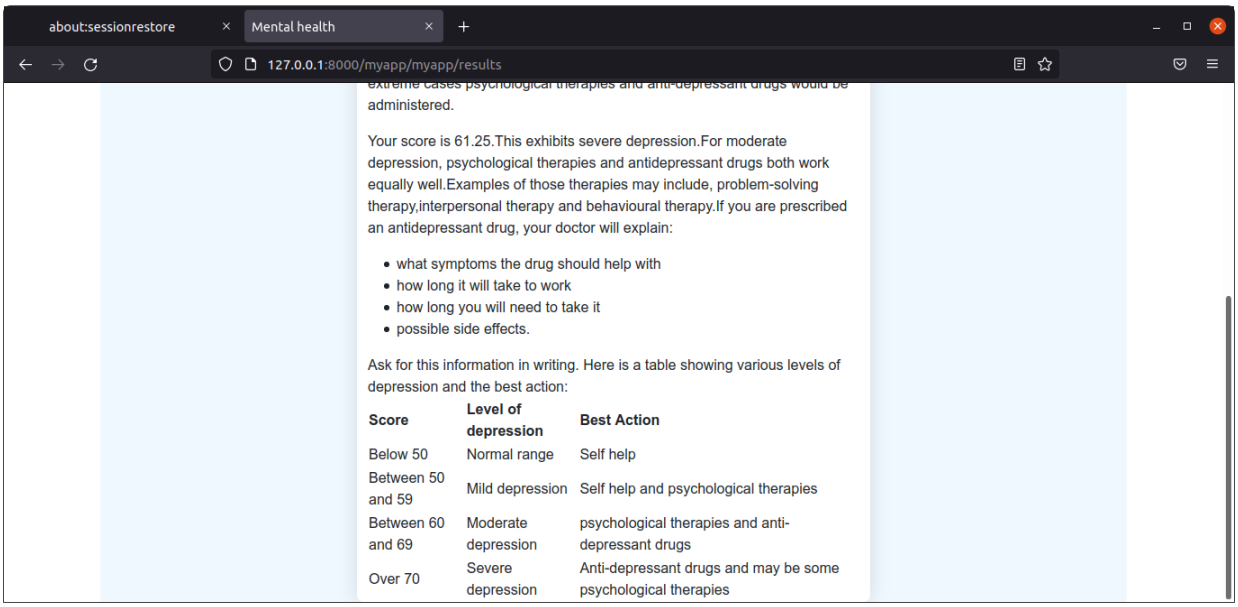

Each variable in the dataset  will have such question which will be interacting with the model.

The result code based on prediction of the model




The result screenshot:




about:sessionrestore
Mental health
127.0.0.1:8000/myapp/myapp/results
extreme cases psychological therapies and anti-depressant drugs would be administered.
Your score is 61.25.This exhibits severe depression.For moderate depression, psychological therapies and antidepressant drugs both work equally well.Examples of those therapies may include, problem-solving therapy,interpersonal therapy and behavioural therapy.If you are prescribed an antidepressant drug, your doctor will explain:
what symptoms the drug should help with
how long it will take to work
how long you will need to take it
possible side effects.
Ask for this information in writing. Here is a table showing various levels of depression and the best action:
Score
Level of depression
Best Action
Below 50
Normal range
Self help
Between 50 and 59
Mild depression
Self help and psychological therapies
Between 60 and 69
Moderate depression
psychological therapies and anti-depressant drugs
Over 70
Severe depression
Anti-depressant drugs and may be some psychological therapies