Class practical, non-gradeable

You have been provided with the Dataset "Social_Media_Usage" which classifies the social media platforms used by males and females of different ages Social_Media_Usage.csv Generate a machine learning model to predict platforms used by a 21yr old female and a 32yr old male

Group Members

1. Remmy Bisimbeko - B26099 - J24M19/011 My GitHub - https://github.com/RemmyBisimbeko/Data-Science

In [ ]:
```
# Bring in Libraries
import pandas as pd
from sklearn.model_selection import train_test_split
from sklearn.ensemble import RandomForestClassifier
from sklearn.preprocessing import LabelEncoder
from sklearn.metrics import accuracy_score
```

In [ ]:
```
# Read and load the dataset
df = pd.read_csv("Data Sets/Social_Media_Usage.csv")
df.head()
```

Out[ ]:

	age	gender	platform
0	20	female	tiktok
1	23	female	tiktok
2	25	female	tiktok
3	26	female	snapchat
4	29	female	snapchat

In [ ]:
```
# Followed by Preprocessing
lable_encoder = LabelEncoder()
df['gender'] = lable_encoder.fit_transform(df['gender'])
df['platform'] = lable_encoder.fit_transform(df['platform'])
```

In [ ]:
```
# Now, split the data into features and target
X = df[['age', 'gender']]
y = df['platform']
```

In [ ]:
```
# Split the data into training and testing sets as usual
X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.2,
```

In [ ]:
```
# Initialize the Random Forest classifier
classifier = RandomForestClassifier()
```

In [ ]:
```
# Train the model
classifier.fit(X_train, y_train)
```

Out[ ]:

```
RandomForestClassifier
RandomForestClassifier()
```

In [ ]:
```
# Now lets make the predictions
female_21yr_prediction = classifier.predict([[21, 0]])  # 0 represents fe
male_32yr_prediction = classifier.predict([[32, 1]])    # 1 represents ma
```

```
/usr/local/lib/python3.9/site-packages/sklearn/base.py:493: UserWarning: X
does not have valid feature names, but RandomForestClassifier was fitted w
ith feature names
  warnings.warn(
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ith feature names
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```

In [ ]:
```
# Print the predictions
print("Prediction for 21yr old female:", lable_encoder.inverse_transform(
print("Prediction for 32yr old male:", lable_encoder.inverse_transform(ma
```

```
Prediction for 21yr old female: ['tiktok']
Prediction for 32yr old male: ['facebook']
```