Phase 2 projects

1. World happiness report project

```
import pandas as pd
from sklearn.linear_model import LinearRegression

# Load the dataset
url = 'https://github.com/FlipRoboTechnologies/ML-Datasets/blob/main/World%20Happiness/happiness_score_dataset.csv'
df = pd.read_csv(url)

# Split the dataset into features (X) and target (y)
X = df.drop(['Happiness Score', 'Country'], axis=1)
y = df['Happiness Score']

# Create and train the linear regression model
model = LinearRegression()
model.fit(X, y)

# Make predictions on the dataset
predictions = model.predict(X)

# Evaluate the model's performance
from sklearn.metrics import mean_squared_error, r2_score
mse = mean_squared_error(y, predictions)
r2 = r2_score(y, predictions)

print(f'Mean Squared Error: {mse:.2f}')
print(f'R-squared: {r2:.2f}')
```

Project 2: Titanic survival project

```
import pandas as pd
from sklearn.model_selection import train_test_split
from sklearn.ensemble import RandomForestClassifier
from sklearn.metrics import accuracy_score

# Load the dataset
url = 'https://github.com/FlipRoboTechnologies/ML-Datasets/blob/main/Titanic/titanic_train.csv'
df = pd.read_csv(url)

# Preprocess the data
df = df.drop(['PassengerId', 'Name', 'Ticket', 'Cabin'], axis=1)
df['Age'] = df['Age'].fillna(df['Age'].median())
df['Embarked'] = df['Embarked'].fillna('S')
df = pd.get_dummies(df, columns=['Sex', 'Embarked'])

# Split the dataset into features (X) and target (y)
X = df.drop('Survived', axis=1)
y = df['Survived']

# Split the dataset into training and testing sets
X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.2, random_state=42)

# Create and train the random forest classifier
model = RandomForestClassifier(n_estimators=100, random_state=42)
model.fit(X_train, y_train)

# Evaluate the model's performance
y_pred = model.predict(X_test)
accuracy = accuracy_score(y_test, y_pred)
print(f'Accuracy: {accuracy:.2f}')
```