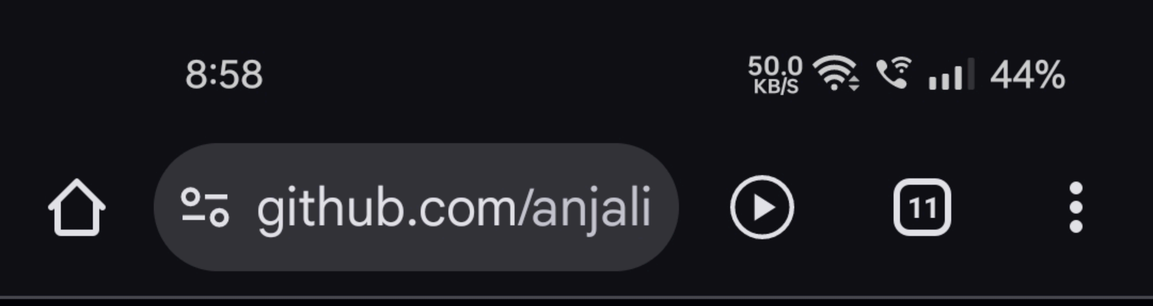

anjalimendke / Mydailywork--Task1-

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Start coding with Codespaces

Add a README file and start coding in a secure, configurable, and dedicated development environment.

Create a codespace

Add collaborators to this repository

Search for people using their GitHub username or email address.

Invite collaborators

Quick setup — if you've done this kind of thing before

HTTPS SSH https://github.com/anjalimendke/Mydailywork--Task1-.git

Get started by creating a new file or uploading an existing file. We recommend every repository include a README, LICENSE, and .gitignore.

...or create a new repository on the command line

```
echo "# Mydailywork--Task1-" >> README.md
git init
git add README.md
git commit -m "first commit"
git branch -M main
git remote add origin https://github.com/anjalimendke/Mydailywork--Task1-.git
git push -u origin main
```

...or push an existing repository from the command line

```
git remote add origin https://github.com/anjalimendke/Mydailywork--Task1-.git
git branch -M main
git push -u origin main
```

ProTip! Use the URL for this page when adding GitHub as a remote.

```
import pandas as pd

url = "https://raw.githubusercontent.com/datasciencedojo/datasets/master/titanic.csv"
df = pd.read_csv(url)
df.head()
```

	PassengerId	Survived	Pclass	Name	Sex	Age	SibSp	Parch	Ticket	Fare	Cabin	Em
0	1	0	3	Braund, Mr. Owen Harris	male	22.0	1	0	A/5 21171	7.2500	NaN	
1	2	1	1	Cumings, Mrs. John Bradley (Florence Briggs Th...	female	38.0	1	0	PC 17599	71.2833	C85	
2	3	1	3	Heikkinen, Miss. Laina	female	26.0	0	0	STON/O2. 3101282	7.9250	NaN	
3	4	1	1	Futrelle, Mrs. Jacques Heath (Lily May Peel)	female	35.0	1	0	113803	53.1000	C123	
4	5	0	3	Allen, Mr. William Henry	male	35.0	0	0	373450	8.0500	NaN	

```
df.info()
df.isnull().sum()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 891 entries, 0 to 890
Data columns (total 12 columns):
 #   Column       Non-Null Count  Dtype
---  ------       --------------  -----
 0   PassengerId  891 non-null    int64
 1   Survived     891 non-null    int64
 2   Pclass       891 non-null    int64
 3   Name         891 non-null    object
 4   Sex          891 non-null    object
 5   Age          714 non-null    float64
 6   SibSp        891 non-null    int64
 7   Parch        891 non-null    int64
 8   Ticket       891 non-null    object
 9   Fare         891 non-null    float64
 10  Cabin        204 non-null    object
 11  Embarked     889 non-null    object
dtypes: float64(2), int64(5), object(5)
memory usage: 83.7+ KB
```

	0
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

```
# Remove columns with too many missing / not useful
df.drop(["Name", "Ticket", "Cabin"], axis=1, inplace=True)

# Fill missing values
df["Age"].fillna(df["Age"].median(), inplace=True)
df["Fare"].fillna(df["Fare"].median(), inplace=True)
df["Embarked"].fillna(df["Embarked"].mode()[0], inplace=True)

# Convert text to numeric
df["Sex"] = df["Sex"].map({"male": 0, "female": 1})
df = pd.get_dummies(df, columns=["Embarked"], drop_first=True)

# Check again for missing values
df.isnull().sum()
```

```
/tmp/ipython-input-2710497343.py:5: FutureWarning: A value is trying to be set on a copy of a
The behavior will change in pandas 3.0. This inplace method will never work because the interr

For example, when doing 'df[col].method(value, inplace=True)', try using 'df.method({col: valu


  df["Age"].fillna(df["Age"].median(), inplace=True)
/tmp/ipython-input-2710497343.py:6: FutureWarning: A value is trying to be set on a copy of a
The behavior will change in pandas 3.0. This inplace method will never work because the interr

For example, when doing 'df[col].method(value, inplace=True)', try using 'df.method({col: valu


  df["Fare"].fillna(df["Fare"].median(), inplace=True)
/tmp/ipython-input-2710497343.py:7: FutureWarning: A value is trying to be set on a copy of a
The behavior will change in pandas 3.0. This inplace method will never work because the interr

For example, when doing 'df[col].method(value, inplace=True)', try using 'df.method({col: valu


  df["Embarked"].fillna(df["Embarked"].mode()[0], inplace=True)
```

	0
PassengerId	0
Survived	0
Pclass	0
Sex	0
Age	0
SibSp	0
Parch	0
Fare	0
Embarked_Q	0
Embarked_S	0

dtype: int64

```
[ ]
X = df.drop("Survived", axis=1)
y = df["Survived"]
```

```
[ ]
from sklearn.model_selection import train_test_split

X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.2, random_state=42)
```

```
[ ]
from sklearn.linear_model import LogisticRegression

model = LogisticRegression(max_iter=300)
model.fit(X_train, y_train)
```

```
/usr/local/lib/python3.12/dist-packages/sklearn/linear_model/_logistic.py:465: ConvergenceWarn
STOP: TOTAL NO. OF ITERATIONS REACHED LIMIT.

Increase the number of iterations (max_iter) or scale the data as shown in:
    https://scikit-learn.org/stable/modules/preprocessing.html
Please also refer to the documentation for alternative solver options:
    https://scikit-learn.org/stable/modules/linear_model.html#logistic-regression
  n_iter_i = _check_optimize_result(
```

LogisticRegression

LogisticRegression(max_iter=300)

```
[ ]
from sklearn.metrics import accuracy_score

y_pred = model.predict(X_test)
accuracy = accuracy_score(y_test, y_pred)
accuracy
```

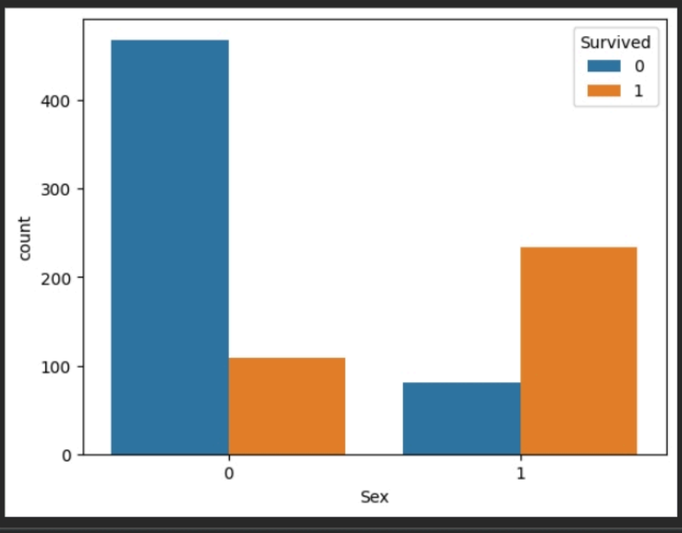
```
0.8044692737430168
```

```
[ ]
from sklearn.metrics import confusion_matrix, classification_report

print(confusion_matrix(y_test, y_pred))
print(classification_report(y_test, y_pred))
```

```
[[89 16]
 [19 55]]
              precision    recall  f1-score   support

           0       0.82      0.85      0.84       105
           1       0.77      0.74      0.76        74

    accuracy                           0.80       179
   macro avg       0.80      0.80      0.80       179
weighted avg       0.80      0.80      0.80       179
```

```
[ ]
import matplotlib.pyplot as plt
import seaborn as sns

plt.figure(figsize=(10,6))
sns.heatmap(df.corr(), annot=True)
plt.show()
```


```
[ ]
sns.countplot(x="Sex", hue="Survived", data=df)
plt.show()
```




```
[ ]
sns.countplot(x="Pclass", hue="Survived", data=df)
plt.show()
```