

Code for the Cement Prediction Model :

```
#import library
import pandas as pd
import seaborn as sns
#import data
cement=pd.read_csv('https://github.com/ybifoundation/Dataset/raw/main/Concrete%20Compressive%20Strength.csv')
#view of data
cement.head()
#info of data
cement.info()
cement.describe()
# check for missing value
cement.isnull().sum()
# check for categories
cement.nunique()
# visualize pairplot
sns.pairplot(cement)
#column name
cement.columns
# define y
y=cement['Concrete Compressive Strength(MPa, megapascals) ']
#define x
x=cement[['Cement (kg in a m^3 mixture)',
          'Blast Furnace Slag (kg in a m^3 mixture)',
          'Fly Ash (kg in a m^3 mixture)', 'Water (kg in a m^3 mixture)',
          'Superplasticizer (kg in a m^3 mixture)',
          'Coarse Aggregate (kg in a m^3 mixture)',
          'Fine Aggregate (kg in a m^3 mixture)', 'Age (day)']]
#split data
from sklearn.model_selection import train_test_split

x_train,x_test,y_train,y_test=train_test_split(x,y,train_size=0.7,random_state=2529)

x_train.shape,x_test.shape,y_train.shape,y_test.shape
```

```

# select model
from sklearn.linear_model import LinearRegression
model= LinearRegression()
# train model
model.fit(x_train,y_train)
# predict with model
y_pred=model.predict(x_test)
#model accuaracy
from sklearn.metrics import mean_absolute_error,mean_absolute_per
centage_error ,mean_squared_error
#mean_absolute_error
mean_absolute_error(y_test,y_pred)
# mean_absolute_percentage_error
mean_absolute_percentage_error(y_test,y_pred)
# mean_squared_error
mean_squared_error(y_test,y_pred)
#future prediction
# define X_new
x_new=x.sample()
#predict for X_new
model.predict(x_new)

```

How to run the code :

Step 1: Open the google Colab.

Step 2: Paste the code comment wise in google colab code section

And run step wise .

Example:

First paste the code

```

#import libarary
import pandas as pd
import seaborn as sns

```

then run this code
and then paste next code such as

```

#import data

```

```
cement=pd.read_csv('https://github.com/ybifoundation/Dataset/raw/main/Concrete%20Compressive%20Strength.csv')
```

then run. In this way run the code in google colab to get the final result of the model.