Load Data and import Dependencies

```
In [2]: !pip install ucimlrepo
        !pip install xlrd
       Requirement already satisfied: ucimlrepo in c:\users\administrator\anaconda3\lib\sit
       e-packages (0.0.7)
       Requirement already satisfied: pandas>=1.0.0 in c:\users\administrator\anaconda3\lib
       \site-packages (from ucimlrepo) (2.2.2)
       Requirement already satisfied: certifi>=2020.12.5 in c:\users\administrator\anaconda
       3\lib\site-packages (from ucimlrepo) (2025.1.31)
       Requirement already satisfied: numpy>=1.26.0 in c:\users\administrator\anaconda3\lib
       \site-packages (from pandas>=1.0.0->ucimlrepo) (1.26.4)
       Requirement already satisfied: python-dateutil>=2.8.2 in c:\users\administrator\anac
       onda3\lib\site-packages (from pandas>=1.0.0->ucimlrepo) (2.9.0.post0)
       Requirement already satisfied: pytz>=2020.1 in c:\users\administrator\anaconda3\lib
       \site-packages (from pandas>=1.0.0->ucimlrepo) (2024.1)
       Requirement already satisfied: tzdata>=2022.7 in c:\users\administrator\anaconda3\li
       b\site-packages (from pandas>=1.0.0->ucimlrepo) (2023.3)
       Requirement already satisfied: six>=1.5 in c:\users\administrator\anaconda3\lib\site
       -packages (from python-dateutil>=2.8.2->pandas>=1.0.0->ucimlrepo) (1.16.0)
       Requirement already satisfied: xlrd in c:\users\administrator\anaconda3\lib\site-pac
       kages (2.0.1)
In [3]: from ucimlrepo import fetch_ucirepo
        import pandas as pd
        import numpy as np
        import matplotlib.pyplot as plt
        import seaborn as sns
        from sklearn.model_selection import train_test_split
        from sklearn.linear model import Ridge, Lasso, LinearRegression
In [4]: # fetch dataset from uci
        concrete_compressive_strength = fetch_ucirepo(id=165)
        # data (as pandas dataframes)
        X = concrete_compressive_strength.data.features
        y = concrete_compressive_strength.data.targets
        # metadata
        print(concrete_compressive_strength.metadata)
        # variable information
        print(concrete_compressive_strength.variables)
```

{'uci_id': 165, 'name': 'Concrete Compressive Strength', 'repository_url': 'https:// archive.ics.uci.edu/dataset/165/concrete+compressive+strength', 'data_url': 'http s://archive.ics.uci.edu/static/public/165/data.csv', 'abstract': 'Concrete is the mo st important material in civil engineering. The concrete compressive strength is a h ighly nonlinear function of age and ingredients. ', 'area': 'Physics and Chemistry', 'tasks': ['Regression'], 'characteristics': ['Multivariate'], 'num_instances': 1030, 'num_features': 8, 'feature_types': ['Real'], 'demographics': [], 'target_col': ['Co ncrete compressive strength'], 'index_col': None, 'has_missing_values': 'no', 'missi ng_values_symbol': None, 'year_of_dataset_creation': 1998, 'last_updated': 'Sun Feb 11 2024', 'dataset_doi': '10.24432/C5PK67', 'creators': ['I-Cheng Yeh'], 'intro_pape r': {'ID': 383, 'type': 'NATIVE', 'title': 'Modeling of strength of high-performance concrete using artificial neural networks', 'authors': 'I. Yeh', 'venue': 'Cement an d Concrete Research, Vol. 28, No. 12', 'year': 1998, 'journal': None, 'DOI': '10.101 6/S0008-8846(98)00165-3', 'URL': 'https://www.semanticscholar.org/paper/9310cae70452 ea11465f338483e79cc36a68881c', 'sha': None, 'corpus': None, 'arxiv': None, 'mag': No ne, 'acl': None, 'pmid': None, 'pmcid': None}, 'additional_info': {'summary': 'Numbe r of instances \t1030\r\nNumber of Attributes\t9\r\nAttribute breakdown\t8 quantitat ive input variables, and 1 quantitative output variable\r\nMissing Attribute Values \tNone \r\n', 'purpose': None, 'funded_by': None, 'instances_represent': None, 'reco mmended_data_splits': None, 'sensitive_data': None, 'preprocessing_description': Non e, 'variable_info': 'Given are the variable name, variable type, the measurement uni t and a brief description. The concrete compressive strength is the regression probl em. The order of this listing corresponds to the order of numerals along the rows of the database. \r\n\r\nName -- Data Type -- Measurement -- Description\r\n\r\nCement (component 1) -- quantitative -- kg in a m3 mixture -- Input Variable\r\nBlast Furna ce Slag (component 2) -- quantitative -- kg in a m3 mixture -- Input Variable\r\nFly Ash (component 3) -- quantitative -- kg in a m3 mixture -- Input Variable\r\nWater (component 4) -- quantitative -- kg in a m3 mixture -- Input Variable\r\nSuperplast icizer (component 5) -- quantitative -- kg in a m3 mixture -- Input Variable\r\nCoar se Aggregate (component 6) -- quantitative -- kg in a m3 mixture -- Input Variable \r\nFine Aggregate (component 7)\t -- quantitative -- kg in a m3 mixture -- Input V ariable\r\nAge -- quantitative -- Day (1~365) -- Input Variable\r\nConcrete compres sive strength -- quantitative -- MPa -- Output Variable\r\n\r\n', 'citation': None}}

	name	role	type	demographic	description	\
0	Cement	Feature	Continuous	None	None	
1	Blast Furnace Slag	Feature	Integer	None	None	
2	Fly Ash	Feature	Continuous	None	None	
3	Water	Feature	Continuous	None	None	
4	Superplasticizer	Feature	Continuous	None	None	
5	Coarse Aggregate	Feature	Continuous	None	None	
6	Fine Aggregate	Feature	Continuous	None	None	
7	Age	Feature	Integer	None	None	
8	Concrete compressive strength	Target	Continuous	None	None	

units missing_values 0 kg/m^3 1 kg/m^3 no 2 kg/m^3 no 3 kg/m^3 no kg/m^3 no 5 kg/m^3 no 6 kg/m^3 no 7 day no 8 MPa nο

_			
n	111	15	
\cup	uч	-	

	Cement	Blast Furnace Slag	Fly Ash	Water	Superplasticizer	Coarse Aggregate	Fine Aggregate	Age
0	540.0	0.0	0.0	162.0	2.5	1040.0	676.0	28
1	540.0	0.0	0.0	162.0	2.5	1055.0	676.0	28
2	332.5	142.5	0.0	228.0	0.0	932.0	594.0	270
3	332.5	142.5	0.0	228.0	0.0	932.0	594.0	365
4	198.6	132.4	0.0	192.0	0.0	978.4	825.5	360
•••				•••				
1025	276.4	116.0	90.3	179.6	8.9	870.1	768.3	28
1026	322.2	0.0	115.6	196.0	10.4	817.9	813.4	28
1027	148.5	139.4	108.6	192.7	6.1	892.4	780.0	28
1028	159.1	186.7	0.0	175.6	11.3	989.6	788.9	28
1029	260.9	100.5	78.3	200.6	8.6	864.5	761.5	28

1030 rows × 8 columns

In [6]: y

1.71	u i	1 ()	

	Concrete compressive strength								
0	79.99								
1	61.89								
2	40.27								
3	41.05								
4	44.30								
•••									
1025	44.28								
1026	31.18								
1027	23.70								
1028	32.77								
1029	32.40								

1030 rows × 1 columns

```
In [7]: # Import data from local source
# file = r'data/Concrete_Data.xls'
```

```
df = pd.read_excel('data/Concrete_Data.xls')
df
```

$\cap \cdot \cdot \perp \Gamma$	77.	
UUTI	/ 7	,

	Cement (component 1)(kg in a m^3 mixture)	Blast Furnace Slag (component 2)(kg in a m^3 mixture)	Fly Ash (component 3)(kg in a m^3 mixture)	Water (component 4)(kg in a m^3 mixture)	Superplasticizer (component 5) (kg in a m^3 mixture)	Coarse Aggregate (component 6)(kg in a m^3 mixture)
0	540.0	0.0	0.0	162.0	2.5	1040.0
1	540.0	0.0	0.0	162.0	2.5	1055.0
2	332.5	142.5	0.0	228.0	0.0	932.0
3	332.5	142.5	0.0	228.0	0.0	932.0
4	198.6	132.4	0.0	192.0	0.0	978.4
•••						
1025	276.4	116.0	90.3	179.6	8.9	870.1
1026	322.2	0.0	115.6	196.0	10.4	817.9
1027	148.5	139.4	108.6	192.7	6.1	892.4
1028	159.1	186.7	0.0	175.6	11.3	989.6
1029	260.9	100.5	78.3	200.6	8.6	864.5

1030 rows \times 9 columns

```
In [8]: df.columns = df.columns.str.strip()

In [9]: # Renaming columns with direct mapping
    df.rename(columns={
        'Cement (component 1)(kg in a m^3 mixture)': 'Cement',
        'Blast Furnace Slag (component 2)(kg in a m^3 mixture)': 'Blast Furnace Slag',
        'Fly Ash (component 3)(kg in a m^3 mixture)': 'Fly Ash',
        'Water (component 4)(kg in a m^3 mixture)': 'Water',
        'Superplasticizer (component 5)(kg in a m^3 mixture)': 'Superplasticizer',
        'Coarse Aggregate (component 6)(kg in a m^3 mixture)': 'Coarse Aggregate',
        'Fine Aggregate (component 7)(kg in a m^3 mixture)': 'Fine Aggregate',
        'Age(day)': 'Age',
        'Concrete compressive strength(MPa, megapascals)': 'Concrete compressive streng
    }, inplace=True)
```

```
In [10]: # Renaming columns with regex
import re

rename_dict = {
    r'.*Cement.*': 'Cement',
    r'.*Blast Furnace Slag.*': 'Blast Furnace Slag',
    r'.*Fly Ash.*': 'Fly Ash',
```

```
r'.*Water.*': 'Water',
    r'.*Superplasticizer.*': 'Superplasticizer',
    r'.*Coarse Aggregate.*': 'Coarse Aggregate',
    r'.*Fine Aggregate.*': 'Fine Aggregate',
    r'.*Age.*': 'Age',
    r'.*Concrete compressive strength.*': 'Concrete compressive strength'
}

df.columns = [next((v for k, v in rename_dict.items() if re.match(k, col)), col) fo

In [11]: df
```

Out[11]:

•		Cement	Blast Furnace Slag	Fly Ash	Water	Superplasticizer	Coarse Aggregate	Fine Aggregate	Age	Comp st
	0	540.0	0.0	0.0	162.0	2.5	1040.0	676.0	28	79.
	1	540.0	0.0	0.0	162.0	2.5	1055.0	676.0	28	61.
	2	332.5	142.5	0.0	228.0	0.0	932.0	594.0	270	40.
	3	332.5	142.5	0.0	228.0	0.0	932.0	594.0	365	41.
	4	198.6	132.4	0.0	192.0	0.0	978.4	825.5	360	44.
	•••									
	1025	276.4	116.0	90.3	179.6	8.9	870.1	768.3	28	44.
	1026	322.2	0.0	115.6	196.0	10.4	817.9	813.4	28	31.
	1027	148.5	139.4	108.6	192.7	6.1	892.4	780.0	28	23.
	1028	159.1	186.7	0.0	175.6	11.3	989.6	788.9	28	32.
	1029	260.9	100.5	78.3	200.6	8.6	864.5	761.5	28	32.

1030 rows × 9 columns

Data Analysis and Visualization

```
In [13]: df.isnull()
```

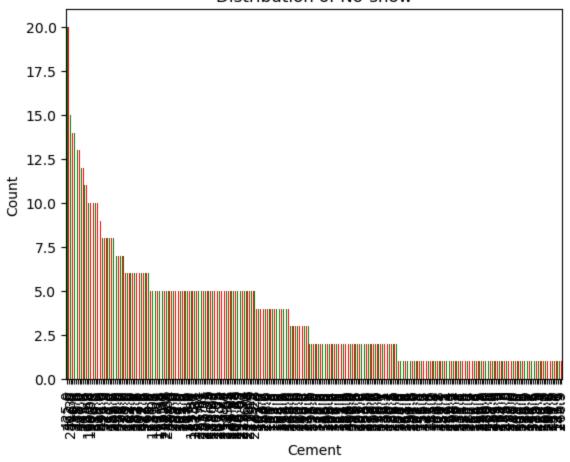
_			
\cap	1111	172	۰ ا
$\cup \iota$	1 [エン	١.

•		Cement	Blast Furnace Slag	Fly Ash	Water	Superplasticizer	Coarse Aggregate	Fine Aggregate	Age	comp Comp
	0	False	False	False	False	False	False	False	False	
	1	False	False	False	False	False	False	False	False	
	2	False	False	False	False	False	False	False	False	
	3	False	False	False	False	False	False	False	False	
	4	False	False	False	False	False	False	False	False	
	•••									
	1025	False	False	False	False	False	False	False	False	
	1026	False	False	False	False	False	False	False	False	
	1027	False	False	False	False	False	False	False	False	
	1028	False	False	False	False	False	False	False	False	
	1029	False	False	False	False	False	False	False	False	

1030 rows × 9 columns

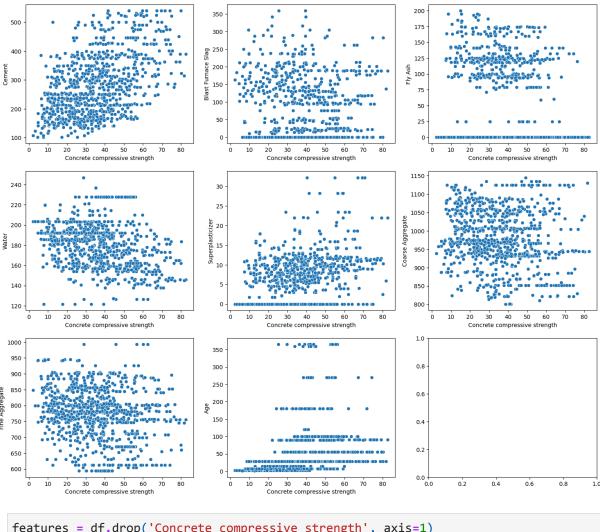
```
In [14]: # Plotting the distribution of No-show
    df['Cement'].value_counts().plot(kind='bar', color=['green', 'red'])
    plt.title('Distribution of No-show')
    plt.xlabel('Cement')
    plt.ylabel('Count')
    plt.show()
```

Distribution of No-show



```
In [15]: # Create a figure with 3x3 subplots, setting the overall figure size to 18x15 inche
         fig, axes = plt.subplots(3, 3, figsize=(18, 15))
         # Set the main title for the entire figure
         fig.suptitle('Understranding Concrete Comprehensive Strength - 3 x 3 axes Box plot
         # Create scatter plots for each feature vs Concrete compressive strength
         # Row 0: Cement, Blast Furnace Slag, Fly Ash
         sns.scatterplot(ax=axes[0, 0], data=df, x=df['Concrete compressive strength'], y=df
         sns.scatterplot(ax=axes[0, 1], data=df, x=df['Concrete compressive strength'], y=df
         sns.scatterplot(ax=axes[0, 2], data=df, x=df['Concrete compressive strength'], y=df
         # Row 1: Water, Superplasticizer, Coarse Aggregate
         sns.scatterplot(ax=axes[1, 0], data=df, x=df['Concrete compressive strength'], y=df
         sns.scatterplot(ax=axes[1, 1], data=df, x=df['Concrete compressive strength'], y=df
         sns.scatterplot(ax=axes[1, 2], data=df, x=df['Concrete compressive strength'], y=df
         # Row 2: Fine Aggregate, Age
         sns.scatterplot(ax=axes[2, 0], data=df, x=df['Concrete compressive strength'], y=df
         sns.scatterplot(ax=axes[2, 1], data=df, x=df['Concrete compressive strength'], y=df
```

Out[15]: <Axes: xlabel='Concrete compressive strength', ylabel='Age'>



In [16]: features = df.drop('Concrete compressive strength', axis=1)

```
In [17]: # generating pairwise correlation
         corr = features.corr()
         # Displaying dataframe as an heatmap
         # with diverging colourmap as coolwarm
         corr.style.background_gradient(cmap ='coolwarm')
```

Out[17]:		Cement	Blast Furnace Slag	Fly Ash	Water	Superplasticizer	Coarse Aggregate	Αç
	Cement	1.000000	-0.275193	-0.397475	-0.081544	0.092771	-0.109356	-
	Blast Furnace Slag	-0.275193	1.000000	-0.323569	0.107286	0.043376	-0.283998	_
	Fly Ash	-0.397475	-0.323569	1.000000	-0.257044	0.377340	-0.009977	
	Water	-0.081544	0.107286	-0.257044	1.000000	-0.657464	-0.182312	
	Superplasticizer	0.092771	0.043376	0.377340	-0.657464	1.000000	-0.266303	
	Coarse Aggregate	-0.109356	-0.283998	-0.009977	-0.182312	-0.266303	1.000000	-
	Fine Aggregate	-0.222720	-0.281593	0.079076	-0.450635	0.222501	-0.178506	
	Age	0.081947	-0.044246	-0.154370	0.277604	-0.192717	-0.003016	-

Split your dataset

Feature Engineering and Cleaning

In [20]: df.dropna()

Out[20]:		Cement	Blast Furnace Slag	Fly Ash	Water	Superplasticizer	Coarse Aggregate	Fine Aggregate	Age	Comp comp
	0	540.0	0.0	0.0	162.0	2.5	1040.0	676.0	28	79.

0	540.0	0.0	0.0	162.0	2.5	1040.0	676.0	28	79.
1	540.0	0.0	0.0	162.0	2.5	1055.0	676.0	28	61.
2	332.5	142.5	0.0	228.0	0.0	932.0	594.0	270	40.
3	332.5	142.5	0.0	228.0	0.0	932.0	594.0	365	41.
4	198.6	132.4	0.0	192.0	0.0	978.4	825.5	360	44.
•••				•••					
1025	276.4	116.0	90.3	179.6	8.9	870.1	768.3	28	44.
1026	322.2	0.0	115.6	196.0	10.4	817.9	813.4	28	31.
1027	148.5	139.4	108.6	192.7	6.1	892.4	780.0	28	23.
1028	159.1	186.7	0.0	175.6	11.3	989.6	788.9	28	32.
1029	260.9	100.5	78.3	200.6	8.6	864.5	761.5	28	32.

1030 rows \times 9 columns

```
In [21]: df.shape
Out[21]: (1030, 9)
In [22]: X = features = df.drop('Concrete compressive strength', axis=1)
    y = target = df['Concrete compressive strength']
```

80 - 20 split

```
In [24]: X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.2, random_sta
```

Model Selection & Engineering

```
In [26]: linear = LinearRegression()
linear.fit(X_train, y_train)

print("Accuracy score on training {:.4f}".format(linear.score(X_train,y_train)))
print("Accuracy score on testing {:.4f}".format(linear.score(X_test,y_test)))

Accuracy score on training 0.6105
Accuracy score on testing 0.6275
```

```
In [27]: # Model Selection
    ridge = Ridge(max_iter=1000000)
    ridge.fit(X_train, y_train)
```

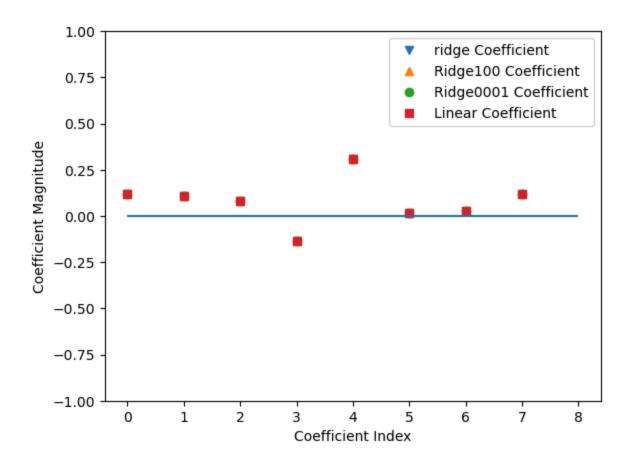
```
Out[27]:
                  Ridge
         Ridge(max_iter=1000000)
In [28]: ridge.fit(X_train, y_train)
         print("Accuracy score on training {:.4f}".format(ridge.score(X_train,y_train)))
         print("Accuracy score on testing {:.4f}".format(ridge.score(X_test,y_test)))
        Accuracy score on training 0.6105
        Accuracy score on testing 0.6275
In [29]: # Model Selection - best fit for ridge
         ridge100 = Ridge(alpha=100, max_iter=1000000)
         ridge100.fit(X_train, y_train)
         ridge.fit(X_train, y_train)
         print("Accuracy score on training {:.4f}".format(ridge100.score(X_train,y_train)))
         print("Accuracy score on testing {:.4f}".format(ridge100.score(X_test,y_test)))
        Accuracy score on training 0.6105
        Accuracy score on testing 0.6276
In [30]: # Model Selection
         ridge0001 = Ridge(alpha=0.0001, max_iter=1000000)
         ridge0001.fit(X_train, y_train)
         ridge.fit(X_train, y_train)
         print("Accuracy score on training {:.4f}".format(ridge0001.score(X_train,y_train)))
         print("Accuracy score on testing {:.4f}".format(ridge0001.score(X_test,y_test)))
        Accuracy score on training 0.6105
        Accuracy score on testing 0.6275
         Ridge Regularization Impact vs LinearRegression
```

```
In [32]: plt.plot(ridge.coef_,'v', label="ridge Coefficient")
    plt.plot(ridge100.coef_,'^', label="Ridge100 Coefficient")
    plt.plot(ridge0001.coef_,'o', label="Ridge0001 Coefficient")

plt.plot(linear.coef_,'s', label="Linear Coefficient")

plt.hlines(0,0, len(linear.coef_))
    plt.ylabel("Coefficient Magnitude")
    plt.xlabel("Coefficient Index")
    plt.ylim(-1,1)
    plt.legend()
```

Out[32]: <matplotlib.legend.Legend at 0x27950f9d550>



```
In [33]: from sklearn.linear_model import Lasso
    lasso = Lasso(max_iter=1000000)

lasso.fit(X_train, y_train)
    print("Accuracy score on training {:.4f}".format(lasso.score(X_train,y_train)))
    print("Accuracy score on testing {:.4f}".format(lasso.score(X_test,y_test)))
    print("Number of features {}".format(np.sum(lasso.coef_ != 0)))
```

Accuracy score on training 0.6102 Accuracy score on testing 0.6276 Number of features 8

```
In [34]: # Lasso0001 - Best fit for lasso
lasso0001 = Lasso(alpha=0.0001, max_iter=1000000)
lasso0001.fit(X_train, y_train)
print("Accuracy score on training {:.4f}".format(lasso0001.score(X_train,y_train)))
print("Accuracy score on testing {:.4f}".format(lasso0001.score(X_test,y_test)))
print("Number of features {}".format(np.sum(lasso0001.coef_ != 0)))
```

Accuracy score on training 0.6105 Accuracy score on testing 0.6275 Number of features 8

```
In [35]: lasso10 = Lasso(alpha=10, max_iter=1000000)

lasso10.fit(X_train, y_train)
print("Accuracy score on training {:.4f}".format(lasso10.score(X_train,y_train)))
print("Accuracy score on testing {:.4f}".format(lasso10.score(X_test,y_test)))
print("Number of features {}".format(np.sum(lasso10.coef_ != 0)))
```

```
Accuracy score on training 0.6046
Accuracy score on testing 0.6214
Number of features 6
```

Number of features 5

```
In [36]: # Lasso100 - Lowest
lasso100 = Lasso(alpha=100,max_iter=1000000)

lasso100.fit(X_train, y_train)
print("Accuracy score on training {:.4f}".format(lasso100.score(X_train,y_train)))
print("Accuracy score on testing {:.4f}".format(lasso100.score(X_test,y_test)))
print("Number of features {}".format(np.sum(lasso100.coef_ != 0)))

Accuracy score on training 0.4653
Accuracy score on testing 0.4398
```

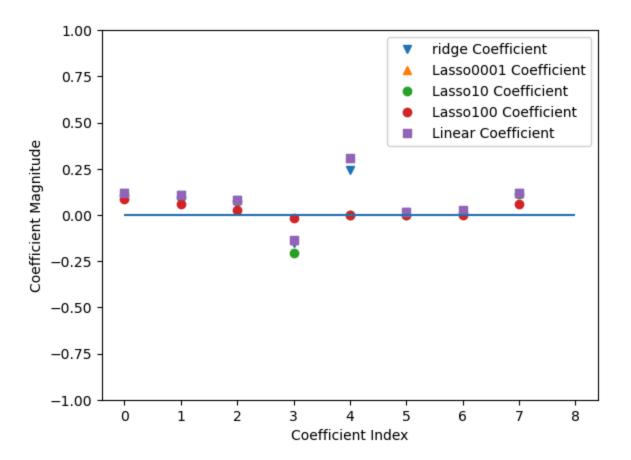
Lasso Regularization Impact vs LinearRegression

```
In [38]: plt.plot(lasso.coef_,'v', label="ridge Coefficient")
    plt.plot(lasso0001.coef_,'o', label="Lasso0001 Coefficient")
    plt.plot(lasso10.coef_,'o', label="Lasso100 Coefficient")
    plt.plot(lasso100.coef_,'o', label="Lasso100 Coefficient")

plt.plot(linear.coef_,'s', label="Linear Coefficient")

plt.hlines(0,0, len(linear.coef_))
    plt.ylabel("Coefficient Magnitude")
    plt.xlabel("Coefficient Index")
    plt.ylim(-1,1)
    plt.legend()
```

Out[38]: <matplotlib.legend.Legend at 0x27951029cd0>



Predictions using best fit model

```
In [40]: y_pred = linear.predict(X_test)
          results_linear = pd.Series(y_pred)
          results_linear
Out[40]: 0
                 59.657163
          1
                 52.037144
          2
                 63.519839
          3
                 51.571366
                 17.220160
                   . . .
          201
                 56.000405
          202
                 17.486689
          203
                 49.087594
                 54.199513
          204
          205
                 31.467891
          Length: 206, dtype: float64
In [41]: y_pred_ridge = ridge100.predict(X_test)
          results_ridge = pd.Series(y_pred_ridge)
          results_ridge
```

```
Out[41]: 0
                59.653095
         1
                52.032451
         2
                63.497376
         3
                51.566683
                17.219626
                 . . .
         201
                56.000707
          202
              17.495513
         203 49.087525
         204 54.217546
         205
                31.473652
         Length: 206, dtype: float64
In [42]: y_pred_lasso = lasso0001.predict(X_test)
         results_lasso = pd.Series(y_pred_lasso)
         results_lasso
Out[42]: 0
                59.657153
         1
                52.037126
         2
                63.519781
                51.571348
               17.220164
         201 56.000404
         202 17.486719
         203
                49.087587
         204 54.199560
          205
                31.467914
         Length: 206, dtype: float64
In [43]: import pandas as pd
         import matplotlib.pyplot as plt
         # Assuming df_graphs is already defined as:
         df_graphs = pd.DataFrame({'Linear_pred': results_linear, 'Lasso_pred': results_lass
         # Assuming y_true contains the actual values
         # Add the actual values to the DataFrame
         df_graphs['Actual'] = y_test
         # Plot each prediction vs actual values
         plt.figure(figsize=(14, 8))
         # Plot Linear Regression predictions vs actual values
         plt.subplot(3, 1, 1)
         plt.plot(df_graphs['Actual'], label='Actual Values', color='black', linestyle='--')
         plt.plot(df_graphs['Linear_pred'], label='Linear Regression Predictions', color='bl
         plt.title('Linear Regression Predictions vs Actual Values')
         plt.xlabel('Index')
         plt.ylabel('Values')
         plt.legend()
         # Plot Lasso Regression predictions vs actual values
         plt.subplot(3, 1, 2)
         plt.plot(df_graphs['Actual'], label='Actual Values', color='black', linestyle='--')
         plt.plot(df_graphs['Lasso_pred'], label='Lasso Regression Predictions', color='oran
```

```
plt.title('Lasso Regression Predictions vs Actual Values')
plt.xlabel('Index')
plt.ylabel('Values')
plt.legend()
# Plot Ridge Regression predictions vs actual values
plt.subplot(3, 1, 3)
plt.plot(df_graphs['Actual'], label='Actual Values', color='black', linestyle='--')
plt.plot(df_graphs['Ridge_pred'], label='Ridge Regression Predictions', color='gree
plt.title('Ridge Regression Predictions vs Actual Values')
plt.xlabel('Index')
plt.ylabel('Values')
plt.legend()
# Adjust layout for better spacing
plt.tight_layout()
plt.show()
                                  Linear Regression Predictions vs Actual Values
                                  Lasso Regression Predictions vs Actual Values
                                                                             --- Actual Values
                                  Ridge Regression Predictions vs Actual Values
                                                                              -- Actual Values
```

In [44]: !pip install nbconvert[webpdf]

```
Requirement already satisfied: nbconvert[webpdf] in c:\users\administrator\anaconda3
\lib\site-packages (7.16.4)
Requirement already satisfied: beautifulsoup4 in c:\users\administrator\anaconda3\li
b\site-packages (from nbconvert[webpdf]) (4.12.3)
Requirement already satisfied: bleach!=5.0.0 in c:\users\administrator\anaconda3\lib
\site-packages (from nbconvert[webpdf]) (4.1.0)
Requirement already satisfied: defusedxml in c:\users\administrator\anaconda3\lib\si
te-packages (from nbconvert[webpdf]) (0.7.1)
Requirement already satisfied: jinja2>=3.0 in c:\users\administrator\anaconda3\lib\s
ite-packages (from nbconvert[webpdf]) (3.1.4)
Requirement already satisfied: jupyter-core>=4.7 in c:\users\administrator\anaconda3
\lib\site-packages (from nbconvert[webpdf]) (5.7.2)
Requirement already satisfied: jupyterlab-pygments in c:\users\administrator\anacond
a3\lib\site-packages (from nbconvert[webpdf]) (0.1.2)
Requirement already satisfied: markupsafe>=2.0 in c:\users\administrator\anaconda3\l
ib\site-packages (from nbconvert[webpdf]) (2.1.3)
Requirement already satisfied: mistune<4,>=2.0.3 in c:\users\administrator\anaconda3
\lib\site-packages (from nbconvert[webpdf]) (2.0.4)
Requirement already satisfied: nbclient>=0.5.0 in c:\users\administrator\anaconda3\l
ib\site-packages (from nbconvert[webpdf]) (0.8.0)
Requirement already satisfied: nbformat>=5.7 in c:\users\administrator\anaconda3\lib
\site-packages (from nbconvert[webpdf]) (5.10.4)
Requirement already satisfied: packaging in c:\users\administrator\anaconda3\lib\sit
e-packages (from nbconvert[webpdf]) (24.1)
Requirement already satisfied: pandocfilters>=1.4.1 in c:\users\administrator\anacon
da3\lib\site-packages (from nbconvert[webpdf]) (1.5.0)
Requirement already satisfied: pygments>=2.4.1 in c:\users\administrator\anaconda3\l
ib\site-packages (from nbconvert[webpdf]) (2.15.1)
Requirement already satisfied: tinycss2 in c:\users\administrator\anaconda3\lib\site
-packages (from nbconvert[webpdf]) (1.2.1)
Requirement already satisfied: traitlets>=5.1 in c:\users\administrator\anaconda3\li
b\site-packages (from nbconvert[webpdf]) (5.14.3)
Collecting playwright (from nbconvert[webpdf])
  Using cached playwright-1.50.0-py3-none-win_amd64.whl.metadata (3.5 kB)
Requirement already satisfied: six>=1.9.0 in c:\users\administrator\anaconda3\lib\si
te-packages (from bleach!=5.0.0->nbconvert[webpdf]) (1.16.0)
Requirement already satisfied: webencodings in c:\users\administrator\anaconda3\lib
\site-packages (from bleach!=5.0.0->nbconvert[webpdf]) (0.5.1)
Requirement already satisfied: platformdirs>=2.5 in c:\users\administrator\anaconda3
\lib\site-packages (from jupyter-core>=4.7->nbconvert[webpdf]) (3.10.0)
Requirement already satisfied: pywin32>=300 in c:\users\administrator\anaconda3\lib
\site-packages (from jupyter-core>=4.7->nbconvert[webpdf]) (305.1)
Requirement already satisfied: jupyter-client>=6.1.12 in c:\users\administrator\anac
onda3\lib\site-packages (from nbclient>=0.5.0->nbconvert[webpdf]) (8.6.0)
Requirement already satisfied: fastjsonschema>=2.15 in c:\users\administrator\anacon
da3\lib\site-packages (from nbformat>=5.7->nbconvert[webpdf]) (2.16.2)
Requirement already satisfied: jsonschema>=2.6 in c:\users\administrator\anaconda3\l
ib\site-packages (from nbformat>=5.7->nbconvert[webpdf]) (4.23.0)
Requirement already satisfied: soupsieve>1.2 in c:\users\administrator\anaconda3\lib
\site-packages (from beautifulsoup4->nbconvert[webpdf]) (2.5)
Collecting pyee<13,>=12 (from playwright->nbconvert[webpdf])
  Using cached pyee-12.1.1-py3-none-any.whl.metadata (2.9 kB)
Collecting greenlet<4.0.0,>=3.1.1 (from playwright->nbconvert[webpdf])
  Using cached greenlet-3.1.1-cp312-cp312-win_amd64.whl.metadata (3.9 kB)
Requirement already satisfied: attrs>=22.2.0 in c:\users\administrator\anaconda3\lib
\site-packages (from jsonschema>=2.6->nbformat>=5.7->nbconvert[webpdf]) (23.1.0)
```

Requirement already satisfied: jsonschema-specifications>=2023.03.6 in c:\users\admi nistrator\anaconda3\lib\site-packages (from jsonschema>=2.6->nbformat>=5.7->nbconver t[webpdf]) (2023.7.1)

Requirement already satisfied: referencing>=0.28.4 in c:\users\administrator\anacond a3\lib\site-packages (from jsonschema>=2.6->nbformat>=5.7->nbconvert[webpdf]) (0.30. 2)

Requirement already satisfied: rpds-py>=0.7.1 in c:\users\administrator\anaconda3\lib\site-packages (from jsonschema>=2.6->nbformat>=5.7->nbconvert[webpdf]) (0.10.6)
Requirement already satisfied: python-dateutil>=2.8.2 in c:\users\administrator\anaconda3\lib\site-packages (from jupyter-client>=6.1.12->nbclient>=0.5.0->nbconvert[webpdf]) (2.9.0.post0)

Requirement already satisfied: pyzmq>=23.0 in c:\users\administrator\anaconda3\lib\s ite-packages (from jupyter-client>=6.1.12->nbclient>=0.5.0->nbconvert[webpdf]) (25. 1.2)

Requirement already satisfied: tornado>=6.2 in c:\users\administrator\anaconda3\lib \site-packages (from jupyter-client>=6.1.12->nbclient>=0.5.0->nbconvert[webpdf]) (6.4.1)

Requirement already satisfied: typing-extensions in c:\users\administrator\anaconda3 \lib\site-packages (from pyee<13,>=12->playwright->nbconvert[webpdf]) (4.11.0) Downloading playwright-1.50.0-py3-none-win_amd64.whl (34.8 MB)

 	(-		· · · = /
 0.0/34.8	MB	?	eta -::
 0.3/34.8	MB	?	eta -::
 0.3/34.8	MB	?	eta -::
 0.3/34.8	MB	?	eta -::

```
----- 0.3/34.8 MB ? eta -:--:-
----- 0.3/34.8 MB ? eta -:--:-
----- 0.3/34.8 MB ? eta -:--:-
----- 0.3/34.8 MB ? eta -:--:--
----- 0.3/34.8 MB ? eta -:--:-
----- 0.3/34.8 MB ? eta -:--:--
----- 0.3/34.8 MB ? eta -:--:-
----- 0.3/34.8 MB ? eta -:--:-
----- 0.3/34.8 MB ? eta -:--:--
----- 0.3/34.8 MB ? eta -:--:--
----- 0.3/34.8 MB ? eta -:--:-
----- 0.3/34.8 MB ? eta -:--:--
----- 0.3/34.8 MB ? eta -:--:-
----- 0.3/34.8 MB ? eta -:--:--
----- 0.3/34.8 MB ? eta -:--:-
----- 0.3/34.8 MB ? eta -:--:-
----- 0.3/34.8 MB ? eta -:--:-
----- 0.3/34.8 MB ? eta -:--:--
----- 0.3/34.8 MB ? eta -:--:-
----- 0.3/34.8 MB ? eta -:--:--
----- 0.5/34.8 MB 29.2 kB/s eta 0:19:35
----- 0.8/34.8 MB 42.6 kB/s eta 0:13:19
```

```
----- 0.8/34.8 MB 42.6 kB/s eta 0:13:19
- ------ 1.0/34.8 MB 40.2 kB/s eta 0:13:59
- ------ 1.0/34.8 MB 40.2 kB/s eta 0:13:59
- ------ 1.0/34.8 MB 40.2 kB/s eta 0:13:59
- ----- 1.0/34.8 MB 40.2 kB/s eta 0:13:59
- ------ 1.0/34.8 MB 40.2 kB/s eta 0:13:59
- ------ 1.3/34.8 MB 51.2 kB/s eta 0:10:54
- ----- 1.3/34.8 MB 51.2 kB/s eta 0:10:54
- ------ 1.3/34.8 MB 51.2 kB/s eta 0:10:54
- ------ 1.3/34.8 MB 51.2 kB/s eta 0:10:54
- ----- 1.6/34.8 MB 59.8 kB/s eta 0:09:16
- ----- 1.6/34.8 MB 59.8 kB/s eta 0:09:16
- ------ 1.6/34.8 MB 59.8 kB/s eta 0:09:16
- ----- 1.6/34.8 MB 59.8 kB/s eta 0:09:16
- ------ 1.6/34.8 MB 59.8 kB/s eta 0:09:16
- ------ 1.6/34.8 MB 59.8 kB/s eta 0:09:16
- ----- 1.6/34.8 MB 59.8 kB/s eta 0:09:16
- ------ 1.6/34.8 MB 59.8 kB/s eta 0:09:16
-- ------ 1.8/34.8 MB 64.0 kB/s eta 0:08:35
-- ----- 1.8/34.8 MB 64.0 kB/s eta 0:08:35
-- ----- 1.8/34.8 MB 64.0 kB/s eta 0:08:35
-- ------ 1.8/34.8 MB 64.0 kB/s eta 0:08:35
-- ------ 1.8/34.8 MB 64.0 kB/s eta 0:08:35
-- ----- 1.8/34.8 MB 64.0 kB/s eta 0:08:35
-- ------ 1.8/34.8 MB 64.0 kB/s eta 0:08:35
-- ----- 1.8/34.8 MB 64.0 kB/s eta 0:08:35
-- ----- 1.8/34.8 MB 64.0 kB/s eta 0:08:35
-- ----- 1.8/34.8 MB 64.0 kB/s eta 0:08:35
-- ------ 1.8/34.8 MB 64.0 kB/s eta 0:08:35
-- ----- 1.8/34.8 MB 64.0 kB/s eta 0:08:35
-- ------ 1.8/34.8 MB 64.0 kB/s eta 0:08:35
-- ----- 1.8/34.8 MB 64.0 kB/s eta 0:08:35
```

```
-- ------ 1.8/34.8 MB 64.0 kB/s eta 0:08:35
-- ------ 1.8/34.8 MB 64.0 kB/s eta 0:08:35
-- ----- 1.8/34.8 MB 64.0 kB/s eta 0:08:35
-- ----- 1.8/34.8 MB 64.0 kB/s eta 0:08:35
-- ------ 1.8/34.8 MB 64.0 kB/s eta 0:08:35
-- ----- 1.8/34.8 MB 64.0 kB/s eta 0:08:35
-- ----- 1.8/34.8 MB 64.0 kB/s eta 0:08:35
-- ------ 1.8/34.8 MB 64.0 kB/s eta 0:08:35
-- ----- 1.8/34.8 MB 64.0 kB/s eta 0:08:35
-- ----- 1.8/34.8 MB 64.0 kB/s eta 0:08:35
-- ----- 1.8/34.8 MB 64.0 kB/s eta 0:08:35
-- ------ 1.8/34.8 MB 64.0 kB/s eta 0:08:35
-- ----- 1.8/34.8 MB 64.0 kB/s eta 0:08:35
-- ------ 1.8/34.8 MB 64.0 kB/s eta 0:08:35
-- ------ 1.8/34.8 MB 64.0 kB/s eta 0:08:35
-- ----- 1.8/34.8 MB 64.0 kB/s eta 0:08:35
-- ------ 1.8/34.8 MB 64.0 kB/s eta 0:08:35
-- ----- 1.8/34.8 MB 64.0 kB/s eta 0:08:35
-- ----- 1.8/34.8 MB 64.0 kB/s eta 0:08:35
-- ----- 2.1/34.8 MB 70.2 kB/s eta 0:07:46
-- ------ 2.1/34.8 MB 70.2 kB/s eta 0:07:46
-- ----- 2.1/34.8 MB 70.2 kB/s eta 0:07:46
-- ------ 2.1/34.8 MB 70.2 kB/s eta 0:07:46
-- ----- 2.4/34.8 MB 69.9 kB/s eta 0:07:45
```

```
-- ----- 2.4/34.8 MB 69.9 kB/s eta 0:07:45
-- ------ 2.4/34.8 MB 69.9 kB/s eta 0:07:45
-- ----- 2.4/34.8 MB 69.9 kB/s eta 0:07:45
-- ----- 2.4/34.8 MB 69.9 kB/s eta 0:07:45
-- ----- 2.4/34.8 MB 69.9 kB/s eta 0:07:45
--- 2.6/34.8 MB 61.6 kB/s eta 0:08:42
--- ------ 2.6/34.8 MB 61.6 kB/s eta 0:08:42
--- 2.9/34.8 MB 45.3 kB/s eta 0:11:45
--- 2.9/34.8 MB 45.3 kB/s eta 0:11:45
```

```
--- 2.9/34.8 MB 45.3 kB/s eta 0:11:45
--- ------ 2.9/34.8 MB 45.3 kB/s eta 0:11:45
--- 3.1/34.8 MB 38.2 kB/s eta 0:13:49
```

```
--- 3.1/34.8 MB 38.2 kB/s eta 0:13:49
--- 3.4/34.8 MB 31.2 kB/s eta 0:16:46
---- 3.7/34.8 MB 34.2 kB/s eta 0:15:09
```

```
---- 3.7/34.8 MB 34.2 kB/s eta 0:15:09
---- 3.9/34.8 MB 38.4 kB/s eta 0:13:24
---- 4.2/34.8 MB 41.2 kB/s eta 0:12:23
```

```
---- 4.2/34.8 MB 41.2 kB/s eta 0:12:23
---- 4.5/34.8 MB 40.7 kB/s eta 0:12:25
----- 4.5/34.8 MB 40.7 kB/s eta 0:12:25
---- 4.7/34.8 MB 43.7 kB/s eta 0:11:28
```

```
---- 4.7/34.8 MB 43.7 kB/s eta 0:11:28
---- 5.0/34.8 MB 46.8 kB/s eta 0:10:38
----- 5.2/34.8 MB 46.0 kB/s eta 0:10:42
```

```
----- 5.2/34.8 MB 46.0 kB/s eta 0:10:42
----- 5.5/34.8 MB 44.0 kB/s eta 0:11:06
----- 5.8/34.8 MB 45.5 kB/s eta 0:10:39
```

```
----- 5.8/34.8 MB 45.5 kB/s eta 0:10:39
----- 6.0/34.8 MB 38.8 kB/s eta 0:12:22
```

```
----- 6.0/34.8 MB 38.8 kB/s eta 0:12:22
----- 6.0/34.8 MB 38.8 kB/s eta 0:12:22
----- 6.0/34.8 MB 38.8 kB/s eta 0:12:22
----- 6.3/34.8 MB 36.6 kB/s eta 0:13:00
----- 6.6/34.8 MB 41.3 kB/s eta 0:11:24
------ 6.6/34.8 MB 41.3 kB/s eta 0:11:24
----- 6.8/34.8 MB 44.4 kB/s eta 0:10:30
```

```
----- 6.8/34.8 MB 44.4 kB/s eta 0:10:30
------ 7.1/34.8 MB 49.6 kB/s eta 0:09:19
----- 7.3/34.8 MB 51.4 kB/s eta 0:08:55
------ 7.3/34.8 MB 51.4 kB/s eta 0:08:55
----- 7.3/34.8 MB 51.4 kB/s eta 0:08:55
------ 7.3/34.8 MB 51.4 kB/s eta 0:08:55
----- 7.3/34.8 MB 51.4 kB/s eta 0:08:55
```

```
----- 7.3/34.8 MB 51.4 kB/s eta 0:08:55
----- 7.6/34.8 MB 53.5 kB/s eta 0:08:29
----- 7.9/34.8 MB 40.1 kB/s eta 0:11:12
----- 7.9/34.8 MB 40.1 kB/s eta 0:11:12
----- 7.9/34.8 MB 40.1 kB/s eta 0:11:12
```

```
----- 7.9/34.8 MB 40.1 kB/s eta 0:11:12
----- 8.1/34.8 MB 39.9 kB/s eta 0:11:08
------ 8.4/34.8 MB 44.7 kB/s eta 0:09:51
----- 8.4/34.8 MB 44.7 kB/s eta 0:09:51
------ 8.4/34.8 MB 44.7 kB/s eta 0:09:51
----- 8.4/34.8 MB 44.7 kB/s eta 0:09:51
----- 8.4/34.8 MB 44.7 kB/s eta 0:09:51
------ 8.4/34.8 MB 44.7 kB/s eta 0:09:51
----- 8.4/34.8 MB 44.7 kB/s eta 0:09:51
----- 8.4/34.8 MB 44.7 kB/s eta 0:09:51
```

```
----- 8.4/34.8 MB 44.7 kB/s eta 0:09:51
----- 8.4/34.8 MB 44.7 kB/s eta 0:09:51
----- 8.4/34.8 MB 44.7 kB/s eta 0:09:51
----- 8.7/34.8 MB 45.8 kB/s eta 0:09:32
----- 8.9/34.8 MB 50.7 kB/s eta 0:08:31
------ 8.9/34.8 MB 50.7 kB/s eta 0:08:31
----- 8.9/34.8 MB 50.7 kB/s eta 0:08:31
----- 8.9/34.8 MB 50.7 kB/s eta 0:08:31
----- 8.9/34.8 MB 50.7 kB/s eta 0:08:31
------ 8.9/34.8 MB 50.7 kB/s eta 0:08:31
----- 8.9/34.8 MB 50.7 kB/s eta 0:08:31
------ 8.9/34.8 MB 50.7 kB/s eta 0:08:31
----- 9.2/34.8 MB 57.1 kB/s eta 0:07:29
```

```
----- 9.2/34.8 MB 57.1 kB/s eta 0:07:29
----- 9.4/34.8 MB 57.1 kB/s eta 0:07:24
----- 9.7/34.8 MB 62.0 kB/s eta 0:06:45
----- 10.0/34.8 MB 69.4 kB/s eta 0:05:58
------ 10.0/34.8 MB 69.4 kB/s eta 0:05:58
----- 10.2/34.8 MB 71.7 kB/s eta 0:05:43
```

```
----- 10.2/34.8 MB 71.7 kB/s eta 0:05:43
----- 10.2/34.8 MB 71.7 kB/s eta 0:05:43
----- 10.2/34.8 MB 71.7 kB/s eta 0:05:43
----- 10.5/34.8 MB 71.2 kB/s eta 0:05:42
------ 10.5/34.8 MB 71.2 kB/s eta 0:05:42
------ 10.5/34.8 MB 71.2 kB/s eta 0:05:42
------ 10.5/34.8 MB 71.2 kB/s eta 0:05:42
----- 10.5/34.8 MB 71.2 kB/s eta 0:05:42
----- 10.5/34.8 MB 71.2 kB/s eta 0:05:42
------ 10.5/34.8 MB 71.2 kB/s eta 0:05:42
----- 10.5/34.8 MB 71.2 kB/s eta 0:05:42
------ 10.5/34.8 MB 71.2 kB/s eta 0:05:42
------ 10.5/34.8 MB 71.2 kB/s eta 0:05:42
----- 10.5/34.8 MB 71.2 kB/s eta 0:05:42
------ 10.5/34.8 MB 71.2 kB/s eta 0:05:42
----- 10.5/34.8 MB 71.2 kB/s eta 0:05:42
------ 10.5/34.8 MB 71.2 kB/s eta 0:05:42
----- 10.5/34.8 MB 71.2 kB/s eta 0:05:42
------ 10.5/34.8 MB 71.2 kB/s eta 0:05:42
----- 10.5/34.8 MB 71.2 kB/s eta 0:05:42
----- 10.5/34.8 MB 71.2 kB/s eta 0:05:42
----- 10.7/34.8 MB 62.5 kB/s eta 0:06:25
------ 10.7/34.8 MB 62.5 kB/s eta 0:06:25
----- 10.7/34.8 MB 62.5 kB/s eta 0:06:25
------ 10.7/34.8 MB 62.5 kB/s eta 0:06:25
```

```
----- 10.7/34.8 MB 62.5 kB/s eta 0:06:25
----- 11.0/34.8 MB 65.5 kB/s eta 0:06:04
------ 11.0/34.8 MB 65.5 kB/s eta 0:06:04
----- 11.0/34.8 MB 65.5 kB/s eta 0:06:04
----- 11.0/34.8 MB 65.5 kB/s eta 0:06:04
------ 11.0/34.8 MB 65.5 kB/s eta 0:06:04
----- 11.0/34.8 MB 65.5 kB/s eta 0:06:04
----- 11.0/34.8 MB 65.5 kB/s eta 0:06:04
------ 11.0/34.8 MB 65.5 kB/s eta 0:06:04
----- 11.0/34.8 MB 65.5 kB/s eta 0:06:04
------ 11.0/34.8 MB 65.5 kB/s eta 0:06:04
------ 11.0/34.8 MB 65.5 kB/s eta 0:06:04
----- 11.0/34.8 MB 65.5 kB/s eta 0:06:04
------ 11.0/34.8 MB 65.5 kB/s eta 0:06:04
----- 11.0/34.8 MB 65.5 kB/s eta 0:06:04
----- 11.0/34.8 MB 65.5 kB/s eta 0:06:04
------ 11.0/34.8 MB 65.5 kB/s eta 0:06:04
----- 11.0/34.8 MB 65.5 kB/s eta 0:06:04
----- 11.0/34.8 MB 65.5 kB/s eta 0:06:04
------ 11.0/34.8 MB 65.5 kB/s eta 0:06:04
----- 11.0/34.8 MB 65.5 kB/s eta 0:06:04
------ 11.0/34.8 MB 65.5 kB/s eta 0:06:04
----- 11.0/34.8 MB 65.5 kB/s eta 0:06:04
------ 11.0/34.8 MB 65.5 kB/s eta 0:06:04
------ 11.0/34.8 MB 65.5 kB/s eta 0:06:04
----- 11.0/34.8 MB 65.5 kB/s eta 0:06:04
```

```
----- 11.0/34.8 MB 65.5 kB/s eta 0:06:04
----- 11.0/34.8 MB 65.5 kB/s eta 0:06:04
----- 11.0/34.8 MB 65.5 kB/s eta 0:06:04
------ 11.3/34.8 MB 43.8 kB/s eta 0:08:58
------ 11.3/34.8 MB 43.8 kB/s eta 0:08:58
----- 11.3/34.8 MB 43.8 kB/s eta 0:08:58
------ 11.3/34.8 MB 43.8 kB/s eta 0:08:58
----- 11.3/34.8 MB 43.8 kB/s eta 0:08:58
------ 11.3/34.8 MB 43.8 kB/s eta 0:08:58
------ 11.3/34.8 MB 43.8 kB/s eta 0:08:58
----- 11.3/34.8 MB 43.8 kB/s eta 0:08:58
----- 11.3/34.8 MB 43.8 kB/s eta 0:08:58
----- 11.3/34.8 MB 43.8 kB/s eta 0:08:58
------ 11.3/34.8 MB 43.8 kB/s eta 0:08:58
----- 11.3/34.8 MB 43.8 kB/s eta 0:08:58
------ 11.3/34.8 MB 43.8 kB/s eta 0:08:58
----- 11.3/34.8 MB 43.8 kB/s eta 0:08:58
----- 11.3/34.8 MB 43.8 kB/s eta 0:08:58
----- 11.3/34.8 MB 43.8 kB/s eta 0:08:58
------ 11.5/34.8 MB 35.2 kB/s eta 0:11:01
----- 11.5/34.8 MB 35.2 kB/s eta 0:11:01
------ 11.5/34.8 MB 35.2 kB/s eta 0:11:01
----- 11.5/34.8 MB 35.2 kB/s eta 0:11:01
```

```
------ 11.5/34.8 MB 35.2 kB/s eta 0:11:01
------ 11.8/34.8 MB 36.2 kB/s eta 0:10:36
----- 11.8/34.8 MB 36.2 kB/s eta 0:10:36
----- 11.8/34.8 MB 36.2 kB/s eta 0:10:36
------ 12.1/34.8 MB 40.8 kB/s eta 0:09:17
----- 12.1/34.8 MB 40.8 kB/s eta 0:09:17
------ 12.1/34.8 MB 40.8 kB/s eta 0:09:17
------ 12.1/34.8 MB 40.8 kB/s eta 0:09:17
----- 12.1/34.8 MB 40.8 kB/s eta 0:09:17
------ 12.1/34.8 MB 40.8 kB/s eta 0:09:17
----- 12.1/34.8 MB 40.8 kB/s eta 0:09:17
------ 12.1/34.8 MB 40.8 kB/s eta 0:09:17
----- 12.3/34.8 MB 50.7 kB/s eta 0:07:23
```

```
----- 12.3/34.8 MB 50.7 kB/s eta 0:07:23
----- 12.6/34.8 MB 49.9 kB/s eta 0:07:25
------ 12.6/34.8 MB 49.9 kB/s eta 0:07:25
----- 12.6/34.8 MB 49.9 kB/s eta 0:07:25
----- 12.6/34.8 MB 49.9 kB/s eta 0:07:25
------ 12.6/34.8 MB 49.9 kB/s eta 0:07:25
----- 12.6/34.8 MB 49.9 kB/s eta 0:07:25
------ 12.6/34.8 MB 49.9 kB/s eta 0:07:25
----- 12.8/34.8 MB 54.6 kB/s eta 0:06:42
------ 12.8/34.8 MB 54.6 kB/s eta 0:06:42
----- 12.8/34.8 MB 54.6 kB/s eta 0:06:42
------ 12.8/34.8 MB 54.6 kB/s eta 0:06:42
----- 12.8/34.8 MB 54.6 kB/s eta 0:06:42
------ 12.8/34.8 MB 54.6 kB/s eta 0:06:42
----- 12.8/34.8 MB 54.6 kB/s eta 0:06:42
----- 12.8/34.8 MB 54.6 kB/s eta 0:06:42
----- 12.8/34.8 MB 54.6 kB/s eta 0:06:42
------ 12.8/34.8 MB 54.6 kB/s eta 0:06:42
------ 12.8/34.8 MB 54.6 kB/s eta 0:06:42
----- 12.8/34.8 MB 54.6 kB/s eta 0:06:42
------ 12.8/34.8 MB 54.6 kB/s eta 0:06:42
----- 12.8/34.8 MB 54.6 kB/s eta 0:06:42
------ 12.8/34.8 MB 54.6 kB/s eta 0:06:42
----- 13.1/34.8 MB 54.2 kB/s eta 0:06:41
```

```
----- 13.1/34.8 MB 54.2 kB/s eta 0:06:41
----- 13.4/34.8 MB 60.4 kB/s eta 0:05:55
----- 13.6/34.8 MB 63.5 kB/s eta 0:05:34
----- 13.9/34.8 MB 62.7 kB/s eta 0:05:34
----- 14.2/34.8 MB 73.4 kB/s eta 0:04:41
```

```
----- 14.2/34.8 MB 73.4 kB/s eta 0:04:41
----- 14.4/34.8 MB 74.0 kB/s eta 0:04:36
----- 14.7/34.8 MB 65.5 kB/s eta 0:05:08
----- 14.7/34.8 MB 65.5 kB/s eta 0:05:08
----- 14.7/34.8 MB 65.5 kB/s eta 0:05:08
------ 14.7/34.8 MB 65.5 kB/s eta 0:05:08
----- 14.7/34.8 MB 65.5 kB/s eta 0:05:08
```

```
----- 14.7/34.8 MB 65.5 kB/s eta 0:05:08
------ 14.7/34.8 MB 65.5 kB/s eta 0:05:08
----- 14.7/34.8 MB 65.5 kB/s eta 0:05:08
------ 14.7/34.8 MB 65.5 kB/s eta 0:05:08
------ 14.7/34.8 MB 65.5 kB/s eta 0:05:08
----- 14.7/34.8 MB 65.5 kB/s eta 0:05:08
------ 14.7/34.8 MB 65.5 kB/s eta 0:05:08
------ 14.7/34.8 MB 65.5 kB/s eta 0:05:08
------ 14.7/34.8 MB 65.5 kB/s eta 0:05:08
----- 14.9/34.8 MB 57.5 kB/s eta 0:05:45
----- 14.9/34.8 MB 57.5 kB/s eta 0:05:45
------ 14.9/34.8 MB 57.5 kB/s eta 0:05:45
----- 14.9/34.8 MB 57.5 kB/s eta 0:05:45
------ 14.9/34.8 MB 57.5 kB/s eta 0:05:45
------ 14.9/34.8 MB 57.5 kB/s eta 0:05:45
----- 15.2/34.8 MB 54.6 kB/s eta 0:05:59
```

```
----- 15.2/34.8 MB 54.6 kB/s eta 0:05:59
------ 15.2/34.8 MB 54.6 kB/s eta 0:05:59
----- 15.2/34.8 MB 54.6 kB/s eta 0:05:59
------ 15.2/34.8 MB 54.6 kB/s eta 0:05:59
----- 15.5/34.8 MB 44.0 kB/s eta 0:07:20
------ 15.5/34.8 MB 44.0 kB/s eta 0:07:20
------ 15.5/34.8 MB 44.0 kB/s eta 0:07:20
----- 15.5/34.8 MB 44.0 kB/s eta 0:07:20
----- 15.5/34.8 MB 44.0 kB/s eta 0:07:20
----- 15.5/34.8 MB 44.0 kB/s eta 0:07:20
------ 15.5/34.8 MB 44.0 kB/s eta 0:07:20
----- 15.5/34.8 MB 44.0 kB/s eta 0:07:20
------ 15.5/34.8 MB 44.0 kB/s eta 0:07:20
----- 15.7/34.8 MB 45.2 kB/s eta 0:07:02
```

```
----- 15.7/34.8 MB 45.2 kB/s eta 0:07:02
----- 15.7/34.8 MB 45.2 kB/s eta 0:07:02
----- 16.0/34.8 MB 49.4 kB/s eta 0:06:21
------ 16.3/34.8 MB 54.1 kB/s eta 0:05:43
----- 16.3/34.8 MB 54.1 kB/s eta 0:05:43
------ 16.3/34.8 MB 54.1 kB/s eta 0:05:43
------ 16.3/34.8 MB 54.1 kB/s eta 0:05:43
----- 16.3/34.8 MB 54.1 kB/s eta 0:05:43
------ 16.3/34.8 MB 54.1 kB/s eta 0:05:43
------ 16.3/34.8 MB 54.1 kB/s eta 0:05:43
----- 16.3/34.8 MB 54.1 kB/s eta 0:05:43
------ 16.3/34.8 MB 54.1 kB/s eta 0:05:43
----- 16.3/34.8 MB 54.1 kB/s eta 0:05:43
------ 16.3/34.8 MB 54.1 kB/s eta 0:05:43
------ 16.3/34.8 MB 54.1 kB/s eta 0:05:43
----- 16.3/34.8 MB 54.1 kB/s eta 0:05:43
----- 16.5/34.8 MB 61.6 kB/s eta 0:04:57
------ 16.5/34.8 MB 61.6 kB/s eta 0:04:57
----- 16.5/34.8 MB 61.6 kB/s eta 0:04:57
----- 16.5/34.8 MB 61.6 kB/s eta 0:04:57
------ 16.5/34.8 MB 61.6 kB/s eta 0:04:57
----- 16.5/34.8 MB 61.6 kB/s eta 0:04:57
----- 16.5/34.8 MB 61.6 kB/s eta 0:04:57
----- 16.5/34.8 MB 61.6 kB/s eta 0:04:57
------ 16.5/34.8 MB 61.6 kB/s eta 0:04:57
----- 16.8/34.8 MB 66.8 kB/s eta 0:04:30
```

```
----- 16.8/34.8 MB 66.8 kB/s eta 0:04:30
----- 17.0/34.8 MB 72.4 kB/s eta 0:04:06
----- 17.3/34.8 MB 78.2 kB/s eta 0:03:44
------ 17.3/34.8 MB 78.2 kB/s eta 0:03:44
----- 17.3/34.8 MB 78.2 kB/s eta 0:03:44
------ 17.3/34.8 MB 78.2 kB/s eta 0:03:44
----- 17.3/34.8 MB 78.2 kB/s eta 0:03:44
----- 17.3/34.8 MB 78.2 kB/s eta 0:03:44
------ 17.3/34.8 MB 78.2 kB/s eta 0:03:44
----- 17.3/34.8 MB 78.2 kB/s eta 0:03:44
----- 17.3/34.8 MB 78.2 kB/s eta 0:03:44
------ 17.3/34.8 MB 78.2 kB/s eta 0:03:44
----- 17.3/34.8 MB 78.2 kB/s eta 0:03:44
------ 17.3/34.8 MB 78.2 kB/s eta 0:03:44
----- 17.3/34.8 MB 78.2 kB/s eta 0:03:44
```

```
----- 17.3/34.8 MB 78.2 kB/s eta 0:03:44
------ 17.6/34.8 MB 67.3 kB/s eta 0:04:16
----- 17.6/34.8 MB 67.3 kB/s eta 0:04:16
------ 17.6/34.8 MB 67.3 kB/s eta 0:04:16
----- 17.6/34.8 MB 67.3 kB/s eta 0:04:16
------ 17.6/34.8 MB 67.3 kB/s eta 0:04:16
----- 17.6/34.8 MB 67.3 kB/s eta 0:04:16
------ 17.6/34.8 MB 67.3 kB/s eta 0:04:16
----- 17.6/34.8 MB 67.3 kB/s eta 0:04:16
------ 17.6/34.8 MB 67.3 kB/s eta 0:04:16
------ 17.6/34.8 MB 67.3 kB/s eta 0:04:16
----- 17.6/34.8 MB 67.3 kB/s eta 0:04:16
```

```
----- 17.6/34.8 MB 67.3 kB/s eta 0:04:16
------ 17.6/34.8 MB 67.3 kB/s eta 0:04:16
----- 17.8/34.8 MB 47.7 kB/s eta 0:05:56
------ 17.8/34.8 MB 47.7 kB/s eta 0:05:56
----- 17.8/34.8 MB 47.7 kB/s eta 0:05:56
------ 17.8/34.8 MB 47.7 kB/s eta 0:05:56
----- 17.8/34.8 MB 47.7 kB/s eta 0:05:56
------ 17.8/34.8 MB 47.7 kB/s eta 0:05:56
----- 17.8/34.8 MB 47.7 kB/s eta 0:05:56
------ 18.1/34.8 MB 25.1 kB/s eta 0:11:05
----- 18.1/34.8 MB 25.1 kB/s eta 0:11:05
----- 18.1/34.8 MB 25.1 kB/s eta 0:11:05
------ 18.1/34.8 MB 25.1 kB/s eta 0:11:05
----- 18.1/34.8 MB 25.1 kB/s eta 0:11:05
```

```
------ 18.1/34.8 MB 25.1 kB/s eta 0:11:05
------ 18.1/34.8 MB 25.1 kB/s eta 0:11:05
----- 18.1/34.8 MB 25.1 kB/s eta 0:11:05
------ 18.1/34.8 MB 25.1 kB/s eta 0:11:05
----- 18.1/34.8 MB 25.1 kB/s eta 0:11:05
----- 18.1/34.8 MB 25.1 kB/s eta 0:11:05
------ 18.1/34.8 MB 25.1 kB/s eta 0:11:05
------ 18.1/34.8 MB 25.1 kB/s eta 0:11:05
----- 18.1/34.8 MB 25.1 kB/s eta 0:11:05
----- 18.1/34.8 MB 25.1 kB/s eta 0:11:05
----- 18.1/34.8 MB 25.1 kB/s eta 0:11:05
------ 18.1/34.8 MB 25.1 kB/s eta 0:11:05
------ 18.1/34.8 MB 25.1 kB/s eta 0:11:05
----- 18.4/34.8 MB 29.7 kB/s eta 0:09:15
----- 18.4/34.8 MB 29.7 kB/s eta 0:09:15
----- 18.4/34.8 MB 29.7 kB/s eta 0:09:15
------ 18.4/34.8 MB 29.7 kB/s eta 0:09:15
------ 18.4/34.8 MB 29.7 kB/s eta 0:09:15
----- 18.4/34.8 MB 29.7 kB/s eta 0:09:15
------ 18.4/34.8 MB 29.7 kB/s eta 0:09:15
----- 18.4/34.8 MB 29.7 kB/s eta 0:09:15
----- 18.4/34.8 MB 29.7 kB/s eta 0:09:15
------ 18.4/34.8 MB 29.7 kB/s eta 0:09:15
----- 18.4/34.8 MB 29.7 kB/s eta 0:09:15
------ 18.4/34.8 MB 29.7 kB/s eta 0:09:15
----- 18.4/34.8 MB 29.7 kB/s eta 0:09:15
```

```
----- 18.4/34.8 MB 29.7 kB/s eta 0:09:15
------ 18.6/34.8 MB 30.5 kB/s eta 0:08:50
----- 18.6/34.8 MB 30.5 kB/s eta 0:08:50
------ 18.6/34.8 MB 30.5 kB/s eta 0:08:50
----- 18.6/34.8 MB 30.5 kB/s eta 0:08:50
------ 18.6/34.8 MB 30.5 kB/s eta 0:08:50
----- 18.6/34.8 MB 30.5 kB/s eta 0:08:50
------ 18.6/34.8 MB 30.5 kB/s eta 0:08:50
------ 18.6/34.8 MB 30.5 kB/s eta 0:08:50
----- 18.6/34.8 MB 30.5 kB/s eta 0:08:50
------ 18.6/34.8 MB 30.5 kB/s eta 0:08:50
----- 18.6/34.8 MB 30.5 kB/s eta 0:08:50
----- 18.6/34.8 MB 30.5 kB/s eta 0:08:50
------ 18.6/34.8 MB 30.5 kB/s eta 0:08:50
----- 18.6/34.8 MB 30.5 kB/s eta 0:08:50
------ 18.6/34.8 MB 30.5 kB/s eta 0:08:50
----- 18.6/34.8 MB 30.5 kB/s eta 0:08:50
------ 18.6/34.8 MB 30.5 kB/s eta 0:08:50
----- 18.6/34.8 MB 30.5 kB/s eta 0:08:50
------ 18.6/34.8 MB 30.5 kB/s eta 0:08:50
----- 18.6/34.8 MB 30.5 kB/s eta 0:08:50
----- 18.9/34.8 MB 31.0 kB/s eta 0:08:34
----- 18.9/34.8 MB 31.0 kB/s eta 0:08:34
```

```
----- 18.9/34.8 MB 31.0 kB/s eta 0:08:34
------ 18.9/34.8 MB 31.0 kB/s eta 0:08:34
----- 18.9/34.8 MB 31.0 kB/s eta 0:08:34
------ 18.9/34.8 MB 31.0 kB/s eta 0:08:34
----- 18.9/34.8 MB 31.0 kB/s eta 0:08:34
----- 19.1/34.8 MB 35.6 kB/s eta 0:07:20
------ 19.1/34.8 MB 35.6 kB/s eta 0:07:20
----- 19.1/34.8 MB 35.6 kB/s eta 0:07:20
------ 19.1/34.8 MB 35.6 kB/s eta 0:07:20
------ 19.1/34.8 MB 35.6 kB/s eta 0:07:20
----- 19.1/34.8 MB 35.6 kB/s eta 0:07:20
------ 19.1/34.8 MB 35.6 kB/s eta 0:07:20
------ 19.1/34.8 MB 35.6 kB/s eta 0:07:20
----- 19.1/34.8 MB 35.6 kB/s eta 0:07:20
------ 19.1/34.8 MB 35.6 kB/s eta 0:07:20
----- 19.1/34.8 MB 35.6 kB/s eta 0:07:20
------ 19.1/34.8 MB 35.6 kB/s eta 0:07:20
----- 19.1/34.8 MB 35.6 kB/s eta 0:07:20
------ 19.1/34.8 MB 35.6 kB/s eta 0:07:20
----- 19.4/34.8 MB 41.6 kB/s eta 0:06:11
----- 19.4/34.8 MB 41.6 kB/s eta 0:06:11
------ 19.4/34.8 MB 41.6 kB/s eta 0:06:11
----- 19.4/34.8 MB 41.6 kB/s eta 0:06:11
```

```
----- 19.4/34.8 MB 41.6 kB/s eta 0:06:11
------ 19.4/34.8 MB 41.6 kB/s eta 0:06:11
----- 19.7/34.8 MB 44.0 kB/s eta 0:05:44
------ 19.7/34.8 MB 44.0 kB/s eta 0:05:44
------ 19.7/34.8 MB 44.0 kB/s eta 0:05:44
----- 19.7/34.8 MB 44.0 kB/s eta 0:05:44
------ 19.7/34.8 MB 44.0 kB/s eta 0:05:44
----- 19.7/34.8 MB 44.0 kB/s eta 0:05:44
------ 19.7/34.8 MB 44.0 kB/s eta 0:05:44
----- 19.7/34.8 MB 44.0 kB/s eta 0:05:44
----- 19.9/34.8 MB 45.4 kB/s eta 0:05:28
----- 20.2/34.8 MB 58.9 kB/s eta 0:04:09
```

```
----- 20.4/34.8 MB 65.4 kB/s eta 0:03:40
----- 20.7/34.8 MB 64.8 kB/s eta 0:03:38
----- 21.0/34.8 MB 61.6 kB/s eta 0:03:45
```

```
----- 21.0/34.8 MB 61.6 kB/s eta 0:03:45
----- 21.2/34.8 MB 67.8 kB/s eta 0:03:20
------ 21.2/34.8 MB 67.8 kB/s eta 0:03:20
----- 21.2/34.8 MB 67.8 kB/s eta 0:03:20
------ 21.2/34.8 MB 67.8 kB/s eta 0:03:20
----- 21.2/34.8 MB 67.8 kB/s eta 0:03:20
----- 21.2/34.8 MB 67.8 kB/s eta 0:03:20
----- 21.5/34.8 MB 71.7 kB/s eta 0:03:06
----- 21.8/34.8 MB 82.6 kB/s eta 0:02:38
------ 21.8/34.8 MB 82.6 kB/s eta 0:02:38
----- 22.0/34.8 MB 89.2 kB/s eta 0:02:24
----- 22.3/34.8 MB 96.1 kB/s eta 0:02:11
----- 22.3/34.8 MB 96.1 kB/s eta 0:02:11
----- 22.3/34.8 MB 96.1 kB/s eta 0:02:11
----- 22.5/34.8 MB 103.4 kB/s eta 0:01:59
----- 22.5/34.8 MB 103.4 kB/s eta 0:01:59
----- 22.5/34.8 MB 103.4 kB/s eta 0:01:59
----- 22.8/34.8 MB 110.4 kB/s eta 0:01:49
----- 23.1/34.8 MB 114.9 kB/s eta 0:01:42
----- 23.3/34.8 MB 132.7 kB/s eta 0:01:27
----- 23.6/34.8 MB 134.8 kB/s eta 0:01:24
```

```
----- 23.6/34.8 MB 134.8 kB/s eta 0:01:24
----- 23.9/34.8 MB 123.5 kB/s eta 0:01:29
----- 24.1/34.8 MB 123.6 kB/s eta 0:01:27
----- 24.4/34.8 MB 135.3 kB/s eta 0:01:17
----- 24.6/34.8 MB 136.5 kB/s eta 0:01:15
----- 24.6/34.8 MB 136.5 kB/s eta 0:01:15
----- 24.6/34.8 MB 136.5 kB/s eta 0:01:15
----- 24.9/34.8 MB 142.4 kB/s eta 0:01:10
----- 24.9/34.8 MB 142.4 kB/s eta 0:01:10
----- 24.9/34.8 MB 142.4 kB/s eta 0:01:10
------ 24.9/34.8 MB 142.4 kB/s eta 0:01:10
----- 24.9/34.8 MB 142.4 kB/s eta 0:01:10
----- 25.2/34.8 MB 168.7 kB/s eta 0:00:58
```

```
----- 25.2/34.8 MB 168.7 kB/s eta 0:00:58
----- 25.4/34.8 MB 135.0 kB/s eta 0:01:10
```

```
----- 25.4/34.8 MB 135.0 kB/s eta 0:01:10
----- 25.7/34.8 MB 97.2 kB/s eta 0:01:34
----- 26.0/34.8 MB 79.9 kB/s eta 0:01:51
----- 26.2/34.8 MB 89.5 kB/s eta 0:01:36
----- 26.5/34.8 MB 90.7 kB/s eta 0:01:32
----- 26.7/34.8 MB 90.6 kB/s eta 0:01:29
```

```
----- 26.7/34.8 MB 90.6 kB/s eta 0:01:29
----- 27.0/34.8 MB 75.6 kB/s eta 0:01:43
```

```
----- 27.0/34.8 MB 75.6 kB/s eta 0:01:43
----- 27.3/34.8 MB 69.0 kB/s eta 0:01:50
----- 27.5/34.8 MB 67.8 kB/s eta 0:01:47
----- 27.8/34.8 MB 64.5 kB/s eta 0:01:49
----- 28.0/34.8 MB 71.0 kB/s eta 0:01:35
----- 28.0/34.8 MB 71.0 kB/s eta 0:01:35
----- 28.0/34.8 MB 71.0 kB/s eta 0:01:35
```

```
----- 28.0/34.8 MB 71.0 kB/s eta 0:01:35
----- 28.0/34.8 MB 71.0 kB/s eta 0:01:35
----- 28.0/34.8 MB 71.0 kB/s eta 0:01:35
----- 28.3/34.8 MB 70.6 kB/s eta 0:01:32
----- 28.3/34.8 MB 70.6 kB/s eta 0:01:32
----- 28.3/34.8 MB 70.6 kB/s eta 0:01:32
----- 28.6/34.8 MB 75.3 kB/s eta 0:01:23
----- 28.8/34.8 MB 82.5 kB/s eta 0:01:13
----- 29.1/34.8 MB 82.6 kB/s eta 0:01:09
----- 29.4/34.8 MB 88.3 kB/s eta 0:01:02
----- 29.6/34.8 MB 110.7 kB/s eta 0:00:47
----- 29.9/34.8 MB 114.3 kB/s eta 0:00:43
----- 30.1/34.8 MB 119.4 kB/s eta 0:00:39
----- 30.4/34.8 MB 124.8 kB/s eta 0:00:36
----- 30.7/34.8 MB 130.2 kB/s eta 0:00:32
----- 30.7/34.8 MB 130.2 kB/s eta 0:00:32
----- 30.7/34.8 MB 130.2 kB/s eta 0:00:32
----- 30.9/34.8 MB 136.6 kB/s eta 0:00:29
----- 30.9/34.8 MB 136.6 kB/s eta 0:00:29
----- 30.9/34.8 MB 136.6 kB/s eta 0:00:29
```

```
----- 31.2/34.8 MB 142.0 kB/s eta 0:00:26
----- 31.5/34.8 MB 155.3 kB/s eta 0:00:22
----- 31.7/34.8 MB 160.1 kB/s eta 0:00:20
```

```
----- 31.7/34.8 MB 160.1 kB/s eta 0:00:20
----- 32.0/34.8 MB 135.7 kB/s eta 0:00:21
----- -- 32.2/34.8 MB 132.2 kB/s eta 0:00:20
----- -- 32.2/34.8 MB 132.2 kB/s eta 0:00:20
----- -- 32.2/34.8 MB 132.2 kB/s eta 0:00:20
----- 32.2/34.8 MB 132.2 kB/s eta 0:00:20
----- -- 32.5/34.8 MB 131.6 kB/s eta 0:00:18
----- -- 32.5/34.8 MB 131.6 kB/s eta 0:00:18
----- 32.5/34.8 MB 131.6 kB/s eta 0:00:18
----- 32.5/34.8 MB 131.6 kB/s eta 0:00:18
----- 32.8/34.8 MB 129.7 kB/s eta 0:00:16
----- 32.8/34.8 MB 129.7 kB/s eta 0:00:16
----- 32.8/34.8 MB 129.7 kB/s eta 0:00:16
----- -- 32.8/34.8 MB 129.7 kB/s eta 0:00:16
----- -- 33.0/34.8 MB 135.3 kB/s eta 0:00:13
----- 33.3/34.8 MB 140.0 kB/s eta 0:00:11
------ 33.3/34.8 MB 140.0 kB/s eta 0:00:11
----- 33.6/34.8 MB 140.5 kB/s eta 0:00:09
----- 33.6/34.8 MB 140.5 kB/s eta 0:00:09
----- 33.6/34.8 MB 140.5 kB/s eta 0:00:09
```

```
----- 33.6/34.8 MB 140.5 kB/s eta 0:00:09
       ----- 33.8/34.8 MB 141.4 kB/s eta 0:00:07
       ----- 33.8/34.8 MB 141.4 kB/s eta 0:00:07
       ----- 33.8/34.8 MB 141.4 kB/s eta 0:00:07
       ----- 34.1/34.8 MB 146.1 kB/s eta 0:00:05
       ----- 34.1/34.8 MB 146.1 kB/s eta 0:00:05
       ----- 34.1/34.8 MB 146.1 kB/s eta 0:00:05
                                    34.3/34.8 MB 151.8 kB/s eta 0:00:03
       ----- 34.6/34.8 MB 153.1 kB/s eta 0:00:02
                                    34.6/34.8 MB 153.1 kB/s eta 0:00:02
       ----- 34.8/34.8 MB 149.0 kB/s eta 0:00:00
     Using cached greenlet-3.1.1-cp312-cp312-win_amd64.whl (299 kB)
     Downloading pyee-12.1.1-py3-none-any.whl (15 kB)
     Installing collected packages: pyee, greenlet, playwright
      Attempting uninstall: greenlet
        Found existing installation: greenlet 3.0.1
        Uninstalling greenlet-3.0.1:
         Successfully uninstalled greenlet-3.0.1
     Successfully installed greenlet-3.1.1 playwright-1.50.0 pyee-12.1.1
      WARNING: Failed to remove contents in a temporary directory 'C:\Users\Administrato
     r\Anaconda3\Lib\site-packages\~reenlet'.
      You can safely remove it manually.
      !jupyter nbconvert --to webpdf --allow-chromium-download Concrete_Comprehensive.ipy
In [ ]:
```