Calmcode 1 – python loops/lists ( <https://calmcode.io/course/comprehensions/if> )

Code (1) – Basic List comprehension with conditionals

numbers = range(1, 11)

squares\_of\_even\_numbers = [x \*\* 2 for x in numbers if x % 2 == 0]

print(squares\_of\_even\_numbers)

outputs –

[4, 16, 36,64, 100]

This code creates a list of squares of even numbers from 1 to 10 (inclusive) and then prints the list.

Code (2) – Using Multiple Conditions

squares\_of\_selected\_evens = [x \*\* 2 for x in numbers if x % 2 == 0 if x > 4 if x < 8]

print(squares\_of\_selected\_evens)

This code creates a list of squares of even numbers from the numbers list that are greater than 4 and less than 8. The resulting list squares\_of\_selected\_evens contains the squares of those selected even numbers.

Outputs –

[36]

Calmcode 2 – Python popular ML library

Code – Training a classifier with scikit-learn

Step 1 – Install scikit learn

pip install scikit-learn

Step 2 -

from sklearn.datasets import load\_iris

from sklearn.model\_selection import train\_test\_split

from sklearn.ensemble import RandomForestClassifier

from sklearn.metrics import accuracy\_score

# Load the Iris dataset

iris = load\_iris()

X, y = iris.data, iris.target

# Split the dataset into training and test sets

X\_train, X\_test, y\_train, y\_test = train\_test\_split(X, y, test\_size=0.2, random\_state=42)

# Initialize and train a random forest classifier

clf = RandomForestClassifier(random\_state=42)

clf.fit(X\_train, y\_train)

# Make predictions on the test set

predictions = clf.predict(X\_test)

# Calculate the accuracy of the predictions

accuracy = accuracy\_score(y\_test, predictions)

print(f"Accuracy: {accuracy:.2f}")

Outputs –

Accuracy: 0.97

This code loads the Iris dataset from sklearn, splits it into training and test sets, initializes and trains a Random Forest classifier, makes predictions on the test set, calculates the accuracy of the predictions using accuracy\_score, and finally prints the accuracy score.