Day-11 Morning Assessment

Pandas

1. Reading CSV file and displaying the first 10 rows

Let the file name be “data”

df = pd.read\_csv(“data.csv”)

df.head(10)

1. Finding number of rows and columns in a dataframe

Let the dataframe be “df”

df.shape

1. Displaying only the rows which satisfy the condition

Let the dataframe be “df”

df[df[“Age”] > 25]

1. Replacing all the missing values in column salary with the mean salary

df[“salary”].fillna(df[“salary”].mean(), inplace = True)

1. Renaming the column emp\_id to employee\_id

Let the dataframe be “df”

df.rename(columns = {“emp\_id” : “employee\_id”}, inplace = True)

1. Droping the duplicates rows from the dataframe

Let the dataframe be “df”

df.drop\_duplicates(inplace = True)

1. Converting a date string to date

df[‘date’] = pd.to\_datetime(df[‘date’])

1. Grouping a dataframe by department and finding the total salary for each

Let the dataframe be “df”

df.groupby(“Departments”)[“salary”].sum()

1. Sorting a dataframe by a column name

Let the dataframe be “df”

Sorted\_data = df.sort\_values[by = “date”, ascending = True]

1. Creating a total\_marks column

df[“total\_marks”] = df[“maths”]+df[“science”]+df[“English”]

1. Filtering the columns based on conditions

Let the dataframe be “df”

df[(df[“score”] > 40) & (df[“score”] <80)]

1. Top 3 rows with highest values in column sales

Let the dataframe be ‘df’

Sorted\_data = df.sort\_values[“sales”].ascending = False

Sorted\_data.head(3)

1. Average, min, and max of price

Let the dataframe be “df”

df.describe()

1. Setting data as index

Let the dataframe be “df”

df.set\_index(‘date’, inplace = True)

1. Converting gender M/F to 1/0

Let the dataframe be “df”

df[‘gender’] = df[‘gender’].map({‘M’ :1, ‘F’ : 0})

Numpy

1. Creating a 1D Numpy array from 0 to 9

Arr = np.arange(10)

1. Creating a 3x3 numpy array filled with random integers

Arr = np.random.randint(1, 101,size = (3,3))

1. Mean and Standard deviation

Let the array be “arr”

arr.mean() and arr.std()

1. Replacing values

Let the array be “arr”

arr[arr>50] = 50

1. Creating a Numpy array and reshaping it to 2D array

Arr = np.arange(12).reshape(3,4)

1. Number of even numbers in Numpy array

Arr = np.arange(20)

np.sum(arr%2 == 0)

1. Flattening a 2D Numpy into 1D Array

Let the array be “arr”

arr.flatten()

1. Creating an array of 10 random floats between 0 and 1

Arr = np.random.rand(0,1,(10))

1. Multiplying two numpy arrays element wise

Arr1 = [1,2,3,4]

Arr2 = [2,3,4,5]

Arr = np.[Arr1 \* Arr2]

1. Finding the index of the maximum value

Let the array be “arr”

np.argmax(arr)