Ex. No. 1	Building a Basic Spark Application
Youtube Link	https://youtu.be/7D4cJNuqVD8
Date of Exercise	6.10.25

AIM

To build a basic Spark application that creates a DataFrame, applies transformations such as filtering and column selection, and displays the results.

Procedure:

1. **Install and configure Apache Spark.**
2. **Launch Spark (PySpark shell / Jupyter / VS Code).**
3. **Create a SparkSession.**
4. **Create a DataFrame from a list of records.**
5. **Apply DataFrame operations:**
6. **filter() to select specific rows**
7. **select() to choose specific columns**

Display the result using show().

Program:

```
from pyspark.sql import SparkSession
# Step 1: Create Spark session
spark = SparkSession.builder.appName("BasicSparkApp").getOrCreate()
# Step 2: Create DataFrame
data = [
    ("Alice", 22, "CSE"),
    ("Bob", 25, "ECE"),
    ("Charlie", 23, "CSE"),
    ("David", 21, "MECH")
]
columns = ["Name", "Age", "Department"]
df = spark.createDataFrame(data, columns)
# Step 3: Filter and select
result = df.filter(df.Department == "CSE").select("Name", "Age")
# Step 4: Display output
result.show()
# Stop Spark session
spark.stop()
```

Output:

```
+-------+---+
|   Name|Age|
+-------+---+
|  Alice| 22|
|Charlie| 23|
+-------+---+
```

Result :

A basic Spark application was successfully created