

# **Projects Summary:**

## **1. Command Line Calculator**

### **Project Overview**

- **Content:**
  - Simple calculator that supports addition, subtraction, multiplication, division, square root, and exponentiation.
  - User selects the operation and enters the numbers.

### **Code Explanation**

- **Content:**
  - Functions for each operation (Add, Subtract, Multiply, Divide, Square Root, Power).
  - Example: add(x, y) adds two numbers, divide(x, y) handles division with error checking for zero.

### **How It Works**

- **Content:**
  - User selects the operation.
  - Enters numbers based on the operation selected.
  - The program performs the operation and displays the result.

### **Tools and Technologies Used:**

- Python

### **Result Screenshots:**

```
CALCULATOR
Select an operation:
1. Addition (+)
2. Subtraction (-)
3. Multiplication (*)
4. Division (/)
5. Power (^)
6. Square Root (√)
7. Exit
Choose an operation (1-7 or symbol [+ - * / ^ √]): 1
Enter first number: 35
Enter second number: 23
✅ Result: 35.0 + 23.0 = 58.0

Would you like to perform another calculation? (yes/no): █
```

## 2. CSV File Analysis

### Project Overview

This project loads a CSV file, analyzes the data, and provides basic statistics (mean, median, max, min). Users can filter data based on their input for customized analysis.

### Code Explanation

- **Data Loading:** CSV file is read using pandas.
- **Statistics:** Calculates mean, median, max, and min for selected columns.
- **Filtering:** Allows data filtering based on user input.
- **Visualization:** Generates basic plots using matplotlib.

### How It Works

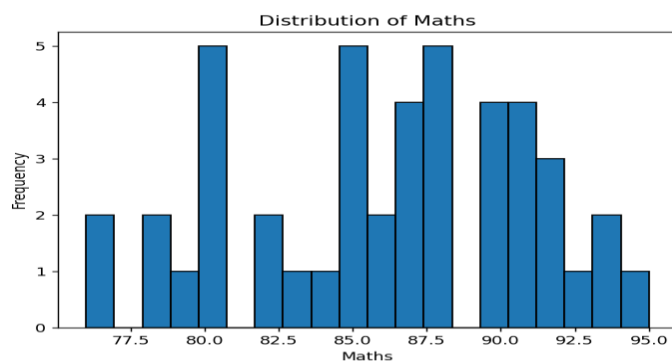
1. Load CSV into a DataFrame.
2. User selects a column or filter condition.
3. Program calculates and displays statistics.
4. Optional visualizations are generated.

### Result Screenshots:

```
PS C:\Users\ashwi\OneDrive\Desktop\Data Softis\SecondProject> python ./analyze.py
Enter the path to the CSV file: C:\Users\ashwi\OneDrive\Desktop\Data Softis\SecondProject\marks_data.csv

Available columns: ['StudentID', 'Name', 'Maths', 'English', 'Science', 'History', 'Total Marks']
Enter the column name to analyze: Maths
Available columns: ['StudentID', 'Name', 'Maths', 'English', 'Science', 'History', 'Total Marks']
Available columns: ['StudentID', 'Name', 'Maths', 'English', 'Science', 'History', 'Total Marks']
Enter the column name to analyze: Maths
Statistics for column 'Maths':
Average: 86.2
Maximum: 95
Minimum: 76

Would you like to visualize the data? (yes/no):
```



# 3. Web Scraping

## Project Overview

This project scrapes data from a website using requests and BeautifulSoup, extracting relevant information like article titles, prices, or descriptions. The data is then saved in a structured format (CSV or JSON).

## Code Explanation

- **Requests:** Used to fetch the webpage content.
- **BeautifulSoup:** Extracts specific data from the HTML.
- **Error Handling:** Manages missing elements and failed requests.

## How It Works

1. Fetch webpage content with requests.
2. Parse the HTML to extract data using BeautifulSoup.
3. Save the scraped data in CSV or JSON format.

## Result Screenshots:

```
Fetching page 1...
Fetching page 2...
Fetching page 3...
Fetching page 4...
Fetching page 5...
Fetching page 6...
Fetching page 7...
Fetching page 8...
Fetching page 9...
Fetching page 10...
Fetching page 11...
Data saved to quotes.csv
PS C:\Users\elbin\Desktop\softech>

1  quote,author
2  "The world as we have created it is a process of our thinking: it cannot be changed without changing our thinking.",Albert Einstein
3  "It is our children, money, that show what we truly are, far more than our abilities.",J.R. Rowling
4  "There are only two ways to live your life. One is as though nothing is a miracle. The other is as though everything is a miracle.",Albert Einstein
5  "The person, be it gentleman or lady, who has not pleasure in a good novel, must be intolerably stupid.",Leo Tolstoy
6  "Imperfection is beauty, sadness is genius and it's better to be absolutely ridiculous than absolutely boring.",Marjane Satrapi
7  "Try not to become a man of success. Rather become a man of value.",Albert Einstein
8  "It is better to be hated for what you are than to be loved for what you are not.",Anne Rice
9  "I have not failed. I've just found 10,000 ways that won't work.",Thomas A. Edison
10 "A woman is like a tea bag; you never know how strong it is until it's in hot water.",Eleanor Roosevelt
11 "A day without sunshine is like, you know, night.",Steve Martin
12 "This life is what you make it. No matter what, you're going to mess up sometimes. It's a universal truth. But the good part is you get to decide how you're
13 "It takes a great deal of bravery to stand up to our enemies, but just as much to stand up to our friends.",J.K. Rowling
14 "If you can't explain it to a six year old, you don't understand it yourself.",Albert Einstein
15 "You may not be her first, her last, or her only. She loved before she may love again, but if she loves you now, what else matters? She's not perfect-you are
16 "I like nonsense. It wakes up the brain cells. Fantasy is a necessary ingredient in living.",Dr. Seuss
17 "I may not have gone where I intended to go, but I think I have ended up where I needed to be.",Douglas Adams
18 "The opposite of love is not hate, it's indifference. The opposite of art is not ugliness, it's indifference. The opposite of faith is not heresy, it's indif
19 "It is not a lack of love, but a lack of friendship that makes unhappy marriages.",Franklin D. Roosevelt
20 "Good friends, good books, and a sleepy conscience: this is the ideal life.",Mark Twain
21 "Life is what happens to us while we are making other plans.",Allen Saunders
22 "I love you without knowing how, or when, or from where. I love you simply, without problems or pride: I love you in this way because I do not know any other
23 "For every minute you are angry you lose sixty seconds of happiness.",Julius and Ethel
24 "If you judge people, you have no time to love them.",Julius Verne
25 "Anyone who thinks sitting in church can make you a Christian must also think that sitting in a garage can make you a car.",Cervantes
26 "Honesty is in the eye of the beholder and it may be necessary from time to time to give a stupid or misinformed beholder a black eye.",Tim Minchin
27 "Today you are here, that is true: true, there is no one alive who is younger than you.",Dr. Seuss
28 "If you want your children to be intelligent, read them fairy tales. If you want them to be more intelligent, read them more fairy tales.",Albert Einstein
29 "It is impossible to live without failing at something, unless you live so cautiously that you might as well not have lived at all - in which case, you fail
30 "Night will get you from A to Z; imagination will get you everywhere.",Albert Einstein
31 "One good thing about music: when it hits you, you feel no pain.",Mae West
32 "The more that you read, the more things you will know. The more that you learn, the more places you'll go.",Dr. Seuss
33 "Of course it is happening inside your head, Harry, but why on earth should that mean that it is not real?",J.K. Rowling
34 "The truth is, everyone is going to hurt you. You just got to find the ones worth suffering for.",Bob Marley
35 "Not all of us can do great things, but we can do small things with great love.",Mother Teresa
36 "The well-organized mind, death is but the next great adventure.",J.L. Rowling
37 "The only way to escape a little piece of you and the world, but a little piece of you"
```