Department of Computer Science and Engineering

PESUniversity,Bangalore,India

Python for Computational Problem Solving(UE24CS151A)

Problem Statement: Level-2(Orange)

Prepared by: Prof. M S Anand **Date: 11th December, 2024**

Dept. of CSE, PESU **Timing:1:45PMto4:00PM**

Problem: Attrition data analyzer–

We have the data available from a company about all the employees who have joined the company. Some of them have quit. This application looks at all that data to give an insight into the current headcount, total attrition since the company started and the number of people who quit for different reasons.

Instructions:

1. Create a GUI using tkinter, where the user can look at the data from different perspectives.
2. Proceed to filter and display the data from the csv file based on these preferences(on the press of a button).
3. Users should be able to manipulate these preferences.
4. There is no write involved. We read the data from the .csv file and choose different options to get a clear view into the reasons for people to quit.

Dataset:Employee_attrition.csv

Deliverable:

The complete code in .py format

Tools/Technologies:

- Language: Python 3.10 or above.
- Concepts to Apply:
  - Data Structures: Use lists or dictionaries to store and organize employ data.
  - Control Structures: Use loops and conditionals to manipulate and analyze the data
  - GUI using tkinter module – Use different widgets

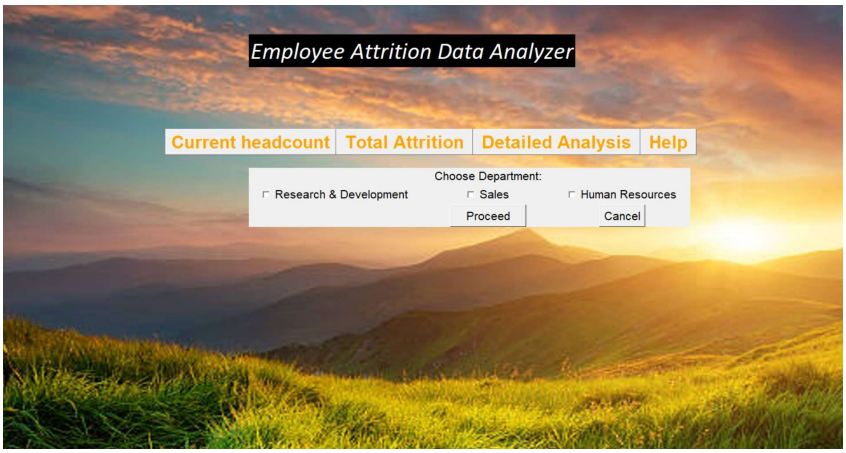
Methodology:

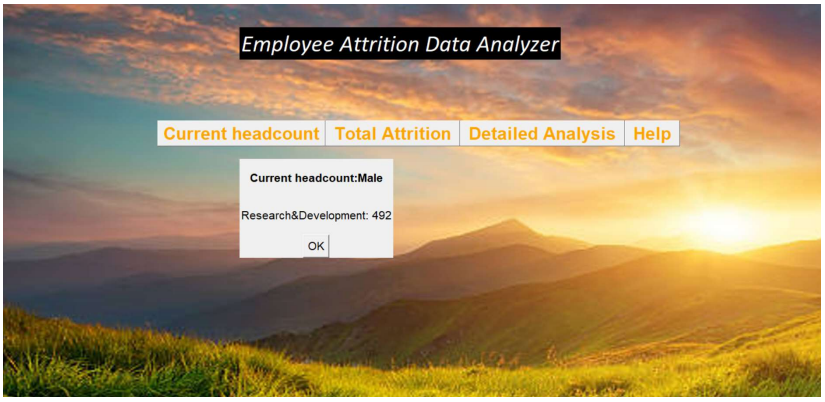
1. Import Necessary Libraries: Import all required libraries such as tkinter, and csv.
2. Load the Dataset: Load the sales dataset from a CSV file into csv reader object
3. Data Exploration: Explore the dataset to understand basic statistics and visualize key metrics.
4. Detailed Analysis: Try and Identify the most important reasons for people to quit..

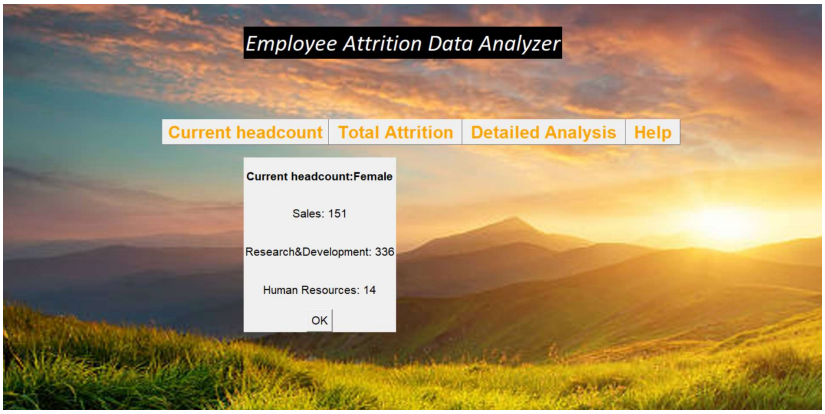
Implementation:Language:Python3.10orabove.

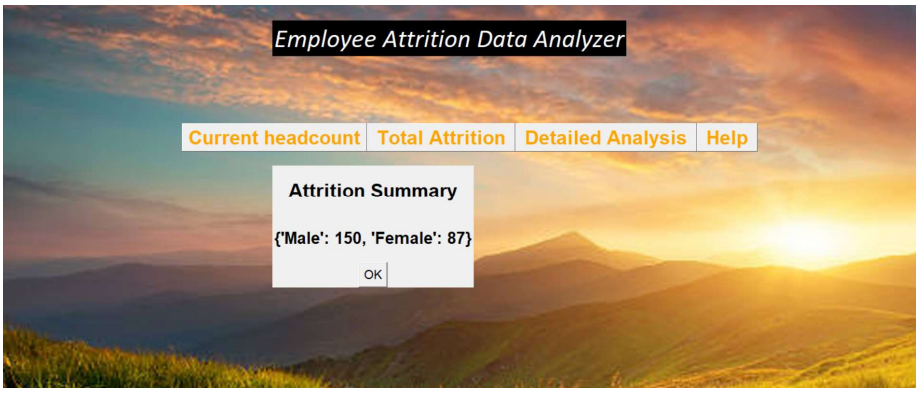
- Use data structuressuchaslists,setsanddictstoreandorganizethedata.
- Use/writeappropriatefunctions–SpecifictoDatastructuresandalsouser defined functions for each functionality.
- Makeuseofoperators,loopsandconditionals
- Use widgets of tkinter module

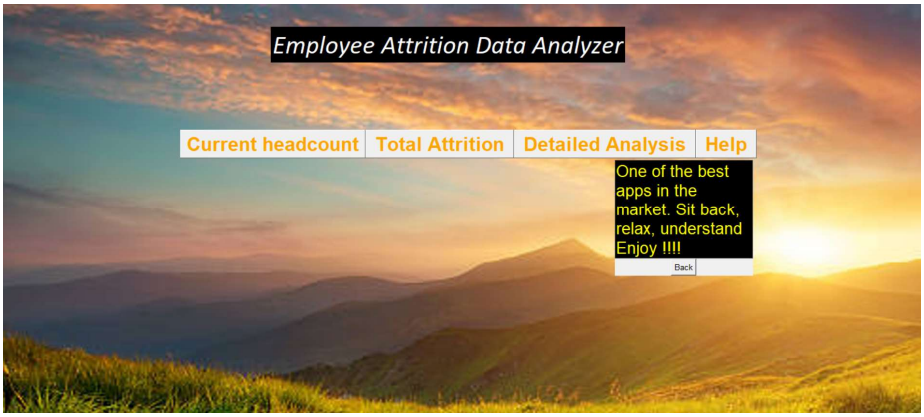
Expectedoutputs: Some of the output screens are as shown below:








Employee Attrition Data Analyzer
Current headcount
Total Attrition
Detailed Analysis
Help
Attrition Summary
{'Male': 150, 'Female': 87}
OK


Employee Attrition Data Analyzer
Current headcount
Total Attrition
Detailed Analysis
Help
One of the best apps in the market. Sit back, relax, understand Enjoy !!!!
Back

-END–