Vacation Rate Python

Description: 😍

The goal of this task is to obtain a Python application that generates graphical reports regarding the vacation planning for all the factories in ADC Romania. Additionally, it should be capable of generating new Excel files for the generated report.

Vacation Rate App

1. **Data Input:**
   - The application must be able to interpret data from Excel report and generate customizable reports. The input data includes the leave days of all employees from ADC EASTERN EUROPE ROMANIA.
2. **Graphical Interface:**
   - The application must have a user-friendly graphical interface with options to:
     - Select the Factory.
     - Choose the Department.
     - Pick the Project.
     - Specify the Manager.
     - Search for a specific employee and generate a report for that colleague.
     - Select the period for which the report is to be generated (one month, multiple months, quarter, semester, or the entire year).
   - All filters must be independent, allowing the generation of reports for various combinations.
3. **Reporting:**
   - Utilize the MATLAB library to plot reports or other tools with the aim of producing reports as professional and easy to read as possible.
   - Display information's in a bar chart with multiple options to display the report for: total days taken (expressed as a percentage) from the total and to show the type of leave if different. For example: Floating day, Medical Leave, etc.
   - Report and alert for cases where planning has not been made for leave days (for colleagues who have more than half of their leave days unplanned).
   - Report and alert for colleagues who have passed September and have more than half of their allocated annual leave days unused.
   - Show department, factory level or project summaries in a histogram.
     - add productive rate for month, quarter, semester and year.
   - Enable monthly, project/department/factory-wise report display and export functionalities.
4. **Employee-Level Information:**
   - Display remaining days off for each employee.
   - Highlight colleagues with no planned days off or remaining days off.
5. **Data Export:**
   - Ability to generate an Excel file containing graphs and data for each level (Factory, Department, Project).
6. **Executable File:**
   - Package the Python code into an executable file for ease of use.

Productivity and Leave Rate Metrics:

1. **Productivity Rate:**

- Calculate the productivity rate expressed as a percentage.
- Provide insights into realized productivity for the previous month (n-1), current actual productivity (n), and forecasted productivity.

2. **Leave Rate:**
   - Express the leave rate as a percentage.
   - Calculate the percentage of total time spent on leave for each employee.
3. **Leave Management Metrics:**
   - Track total available days, validated days, planned days, and remaining days for all layers (Factory, Department, Project).
   - Provide actual, realized, and forecasted data for effective planning and action.
   - Implement radar and evolutionary diagrams for visual representation.

Notite:

1. Rata de productivitate exprimata in procente.
   a. Formula : ***Rata de Productivitate***= **(***Zile Lucrate* / (*Zile Lucrate*+*Zile de CO*)**)**×100
2. Rata de concedii exprimata procentual. Cat la % din timpul total al omului este CO.
   a. eg. 200 de zile totale pe luna (10 oameni) din 200 avem 20 zile de CO asta inseaman ca avem o rata de CO de 10 %.
3. Avem nevoie de realizat, actual si forecast.
   a. Realizat: ce am avut inchis ptr lunile precente n-1.
   b. actual n (un mix intre actual si forecast)
   c. forecast (planningul)
4. Nr de zile disponibile totale, nr de zile validate, nr de planificate, nr de zile ramase ptr toate layere. Scopul e pentru a defini planul de actiune, alerte si scenarii de lucru.
5. radar, schema evolutiva.

Jira ticket: ADC-1: [CREATE]: Vacation Rate Python Script TO DO