Team Member 1: Data Processing and Parsing

Responsibilities:

1. **Input File Handling**:

   o   Read data from sales.txt, timesheet.txt, evaluation.txt, and emp_beg_yr.txt.

   o   Ensure data is cleaned and formatted appropriately (e.g., remove duplicates, check missing values).

   o   Handle errors (e.g., unrecognized employee IDs) and log them in error.txt.

2. **Utilization Rate Calculation**:

   o   Calculate utilization for all employees using the formula:
   $$\text{Utilization Rate} = \left(\frac{\text{Total Hours Worked}}{2250}\right) \times 100$$

3. **Error Logging**:

   o   Log any mismatches or unprocessable records in error.txt.

Team Member 2: Performance Metrics and Bonus Computation

Responsibilities:

1. **Qualitative Evaluation Score**:

   o   Extract and count positive and negative keywords from evaluation.txt.

   o   Compute evaluation scores for Consultants.

   o   Handle special cases (e.g., no evaluations or no negative keywords).

2. **Bonus Eligibility and Calculation**:

   o   Determine employees eligible for bonuses:

      ▪   Above the 65th percentile in utilization.

      ▪   Consultants with evaluation scores >= 3.5.

   o   Calculate bonuses:

      ▪   Apply the percentage rate and caps for Consultants ($50,000) and Directors ($150,000).

   o   Store the bonus values.

3. **Output Final Data**:

   o   Prepare emp_end_yr.txt with all required fields (ID, Name, JobCode, BasePay, Utilization, Evaluation/Sales, Bonus).

Team Member 3: User Interaction and Advanced Features

Responsibilities:

1. **Interactive Features**:

    o Implement functionality to allow management to:

        ▪ Input different bonus percentage rates and compute total payouts.

        ▪ Search for employee details by ID.

    o Display results in the specified formats.

2. **Descriptive Analytics**:

    o Provide statistical summaries (mean, median, std deviation, etc.) for:

        ▪ Utilization rates.

        ▪ Sales (Directors).

        ▪ Evaluation scores (Consultants).

        ▪ Bonus amounts.

3. **Recognition and Probation Lists**:

    o Identify:

        ▪ Employees with the highest utilization and sales.

        ▪ Consultants with poor performance (based on utilization and evaluation score criteria).

4. **Testing and Documentation**:

    o Test all implemented features for accuracy.

    o Document instructions for program usage.

Work Integration

- **File Structure**:

    o Team Member 1: Create initial data processing scripts and share processed data with others.

    o Team Member 2: Use cleaned data for bonus calculations and output creation.

    o Team Member 3: Build interactive and analytical tools.

- **Testing**:

    o Each member tests their own components.

    o Collaborate to ensure integration of all parts works seamlessly.