

# Project Documentation

## Overview

This document provides a detailed explanation of all tasks completed in the project, including the methodologies used, challenges faced, and solutions implemented.

## 1. Data Validation

### Implemented Restrictions:

- **Salary:** Must be numeric and greater than 0.
- **Email:** Must follow a valid format (example@example.com), ensuring the presence of @ and .com.
- **Date of Joining:** Cannot be set in the future.
- **Status:** Can only be "Active" or "Inactive".

### Implementation Steps:

1. Used Data Validation under the "Data" tab to set numeric conditions for the salary.
2. Applied custom formulas in Data Validation to enforce email formatting.
3. Used conditional formatting to highlight invalid dates.
4. Restricted the "Status" column using a drop-down list.
5. Automatically generated email addresses using the employee's name from the "Name" column using the following formula.

**=LOWER(SUBSTITUTE(B3," ","\_")) & "@gmail.com"**

## 2. Sorting & Filtering

### Implemented Features:

- Sorting by **Department** and **Date of Joining**.
- Filtering employees who joined after a specific year.

### Implementation Steps:

1. Applied Sort feature in the "Data" tab.
2. Used AutoFilter to dynamically filter employees based on a given year.
3. Applied the FILTER function to extract employees who joined after a specific date:

**=FILTER(A2:I61, E2:E61 >= DATE(2021,1,1), "No Data Found")**

## 3. Conditional Formatting

### Implemented Formatting:

- Highlight employees earning below \$3,000 in red.
- Highlight employees who joined in the last 6 months in green.

### Implementation Steps:

1. Used Conditional Formatting with a “Format only cells with “for salary.
2. Applied a formula for employees who joined in the last 6 months:

**=E2>=EDATE(TODAY(),-6)**

## 4. Functions & Lookups

### Implemented Features:

- Classification of employees as "Senior" if salary > \$5000, otherwise "Junior".
- Used VLOOKUP to pull department-specific rules from another sheet.

### Implementation Steps:

1. Used an IF formula for classification:

`=IF(F2>5000, "Senior", "Junior")`

2. Implemented VLOOKUP to reference department-specific data:

`=VLOOKUP(C2, Sheet2!A:B, 2, FALSE)`

## 5. PivotTables & Reports

### Implemented Reports:

- Summary of the number of employees per department.
- Grouped employees by year of joining.

### Implementation Steps:

1. Created a PivotTable and added **Department** as a row and **Count of Employee ID** as a value.
2. Grouped the "Date of Joining" field by **Year**.
3. Adjusted the format to ensure data consistency.