

CLOUD PRACTICAL EXAM TALENT INTERNSHIP PROGRAM

Assignment:

FPT Smart Cloud Enterprise needs to develop a shift scheduling program named SHIFT. The SHIFT program must meet the following requirements:

1. On each day, there will be two employees on shift: one from the development team and one from the operation team.
2. After an employee has completed their weekend shift on Saturday and Sunday, they will not be assigned to it until all team members finish their weekend shifts.
3. The scheduling algorithm must be random in each iteration. And it is necessary to ensure that in a round, all team members have one day on shift.
4. When an employee is added to or removed from a team (development or operation) the shift schedule will be rearranged accordingly. The new shift schedule must still meet the 1st and 2nd requirements.
5. The program allows the manager to select both starting and ending times when creating a new shift schedule. The starting time must not be before the current date. The ending time must be at least 7 days after the starting time.

Your task is to develop the specified program above using the programming language that you are most proficient with.

The evaluation criteria are according to the following requirements:

1. The program reads the list of employees from the attached Excel file and outputs employee list to the screen through either the console or GUI interface. Take a screenshot of your result and save it with the name `completed_request_1`.
2. The program allows the manager to add or remove employees through either the console or GUI interface. Confirmation by the user is required for all addition or removal operations. After each addition or removal operation, the user will receive a notification. Save the new employee list in an Excel file with the name `completed_request_2`.
3. The program allows the manager to select both starting and ending times when creating a new shift schedule.
 - a. Take a screenshot when the selected starting time is before the current date. Save it with the name `completed_request_3_1`.
 - b. Create a 30-day shift schedule and save the output to an Excel file with the name `completed_request_3_2`.

Submission: The source code and the results are packaged into a compressed file named **[Candidate's name]_CLOUD.zip**

Send the compressed file to the email address FCI.TA@fpt.com with the subject line: **[Candidate's name] - Submit Cloud practical exam.**

End of test paper.