**Project 1:**

Accept inputs from external files :

1. excel file that has the course details
2. Accept a csv file that has holiday details
3. Accept an excel file with batch name details (DoJ is must)
4. Accept an excel with Trainer details (15 trainers with various skills)
5. Accept an xml file that has details of Org. locations (any 5 locations) where the trainings are conducted.

Generate a course structure in an excel that displays the

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Batch Name[Course name] – Location – Batch Mentor** | | | | |
| **Course Topic** | **Duration in days** | **Start Dt.** | **End Dt.** | **Trainer** |
| Onboarding | 1 |  |  |  |
| Mandatory e-learnings | 2 |  |  |  |

Holidays : 25th Dec(Christmas), 1st Jan (new year).

Rules :

* every course is for around 58 days
* The Onboarding & Mandatory e-learnings should be included as first 3 days in every course structure.
* Holidays (if any) should be listed at the end of the table related to those 58 days
* At every location not more than 2 batches of same course type can be conducted.
* The trainer name should not overlap on the same dates in courses.
* Each trainer can conduct trainings for max. 12 days in a month.
* If you are short of internal trainers, then mark the course for contract trainer.
* A trainer can be batch mentor for not more than 3 batches simultaneously. The batch mentor is chosen based on the person who so ever is conducted either the first or last week of trainings; otherwise the person who is based at that location

Generate reports & graphs for the following :

1. No. of course wise batches in a year
2. How many days the trainer has conducted trainings – quarterly wise
3. Which course was in high demand
4. Which location had more trainings.
5. Which trainer was the batch mentor for max. batches.

**Project 2:** Bank Account Management System:

XYZ Bank needs an application to feed new Account Holder information. There are two types of accounts such as SavingsAccount, CurrentAccount.

By default, all employees in an organization will be assigned with a medical insurance scheme based on the salary range and designation of the employee. Refer the below given table to find the eligible insurance scheme specific to an employee.

|  |  |  |
| --- | --- | --- |
| **Salary** | **Designation** | **Insurance scheme** |
| >5000 and < 20000 | System Associate | Scheme C |
| >=20000 and <40000 | Programmer | Scheme B |
| >=40000 | Manager | Scheme A |
| <5000 | Clerk | No Scheme |

* Person class has properties (such as personName, DoB, contactNo.) & suitable methods
* Account Class (Abstract class) has properties (such as accNum, balance, accHolder) & methods(deposit, withdraw & check balance) with SavingsAcc(minBalance, overridden withdraw method). & CurrentAcc (overDraftLimit, overridden withdraw method that checks whether overdraft limit is reached and returns a boolean value accordingly) as the subclasses.
* Ensure minimum balance of INR 500 is available in the bank account
* Create an account with minimum balance
* Acc. Holder can deposit into his account any no. of times. in a month
* He can withdraw not more than 5 Lakhs by Debit Card or digital payment in a month.
* Fund transfer amongst the accounts of same bank should be possible
* Display updated balance in both the accounts
* Validations should include for Person’s full name, DoB(the age should be >15 for opening an acc.), ContactNo. Create and throw user defined exceptions
* Read and write the employee/accHolder & Account details to a file/Database table
* Bank staff can store multiple accHolder info. In single go using a data strucure