PSG Institute of Technology and Applied Research

Neelambur, Coimbatore – 641062.

COVID 19 Vaccination

Mini Project

First Year CSE

Submitted by,

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Project Guide

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Problem Statement: -

- To develop a routine to input the patient details along with medical issues(if any) and check for the vaccine availability in that particular state where patient resides only in INDIA and decide the dosage of vaccine for the patient based on their age and also to allot date for the first and second vaccination based on the patient's availability.

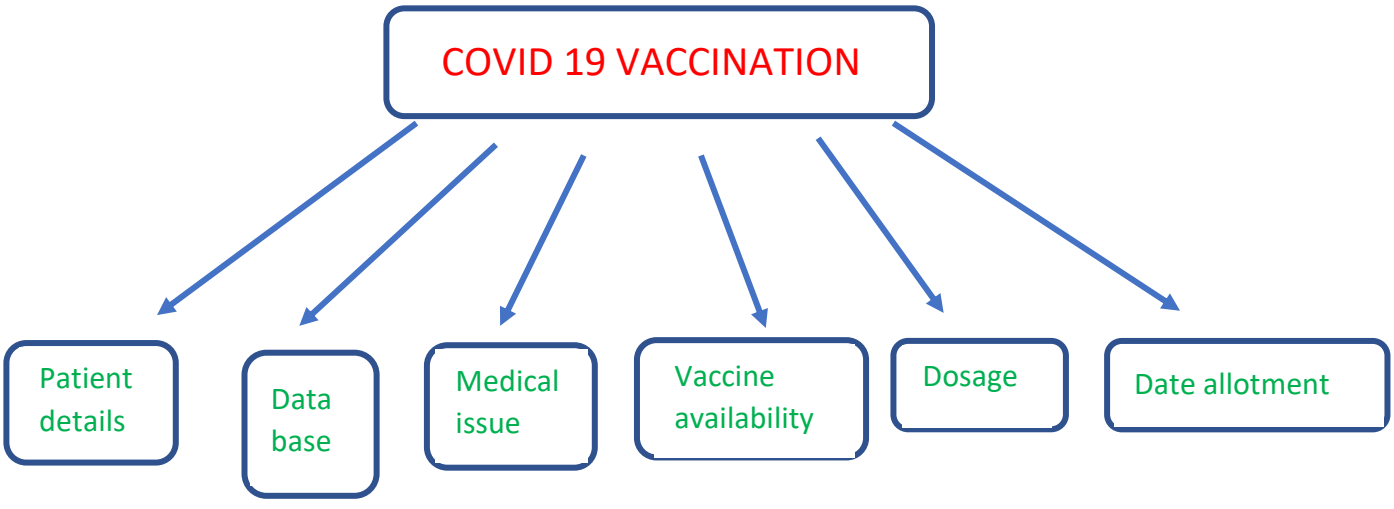
- Patient details include Name, Age, Gender, State, Phone number, Patient type (if any).

This one is very useful in the current pandemic time to store data for the patients who gets vaccinated.

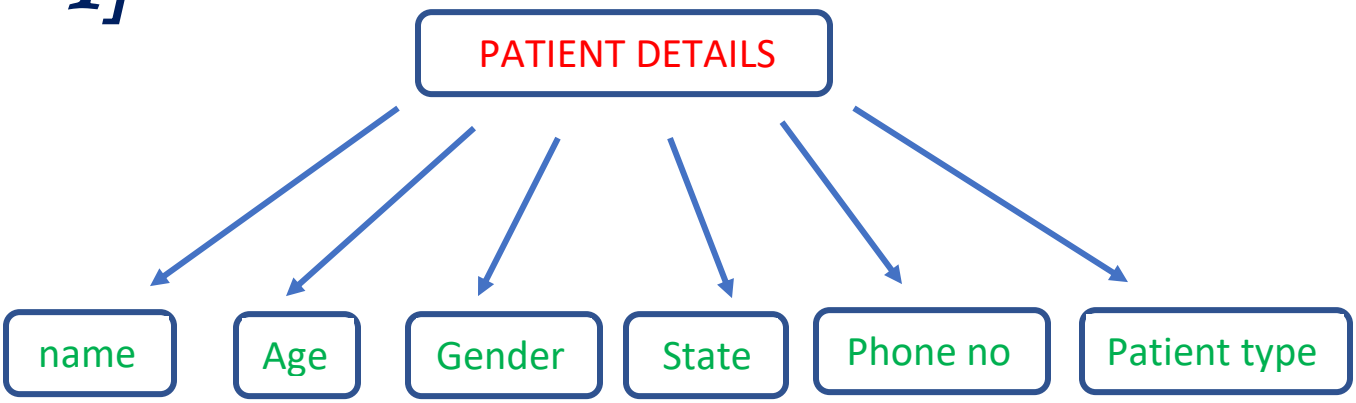
Scope: -

- CONTROL STRUCTURES
- LOOPING CONSTRUCTS
- CSV FILE HANDLING

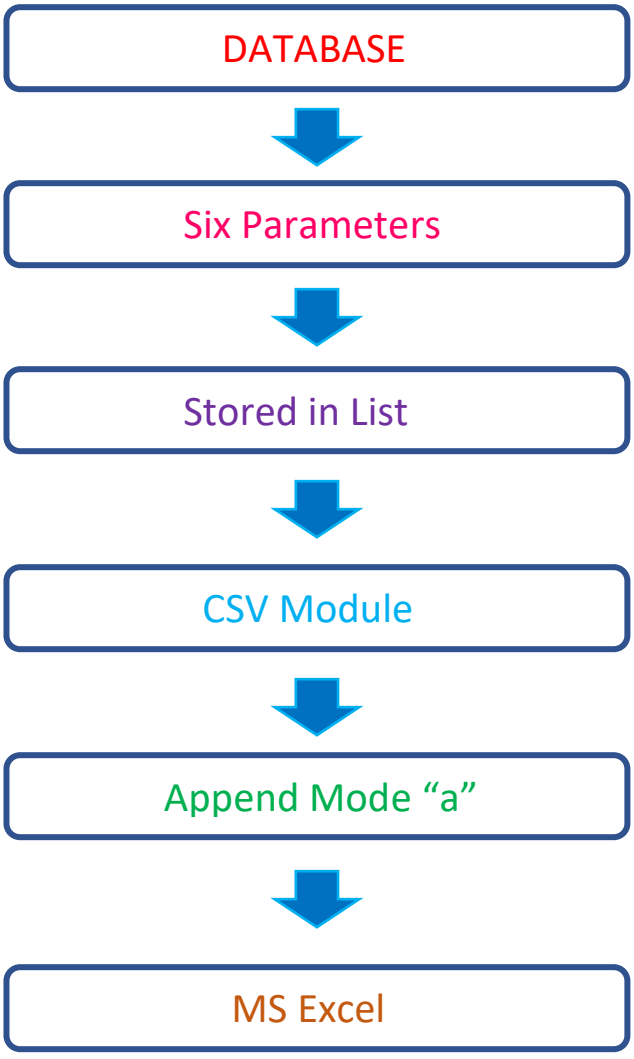
Proposed Methodology: -



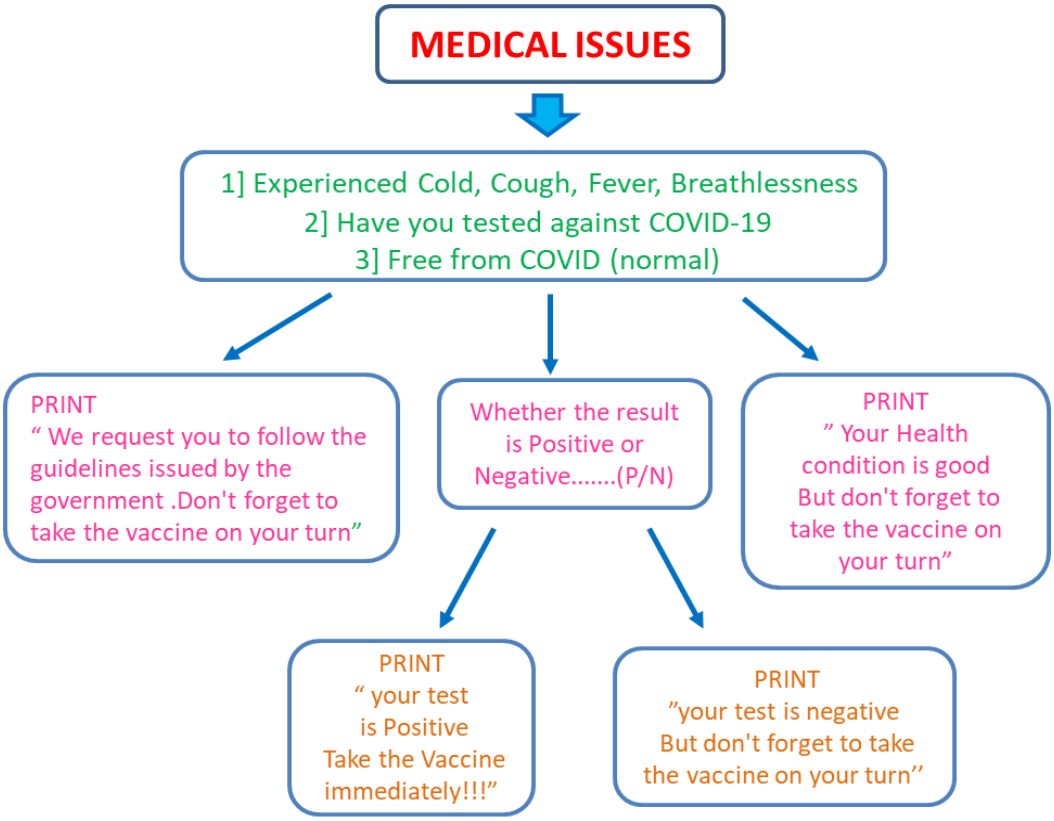
1]


PATIENT DETAILS
name
Age
Gender
State
Phone no
Patient type

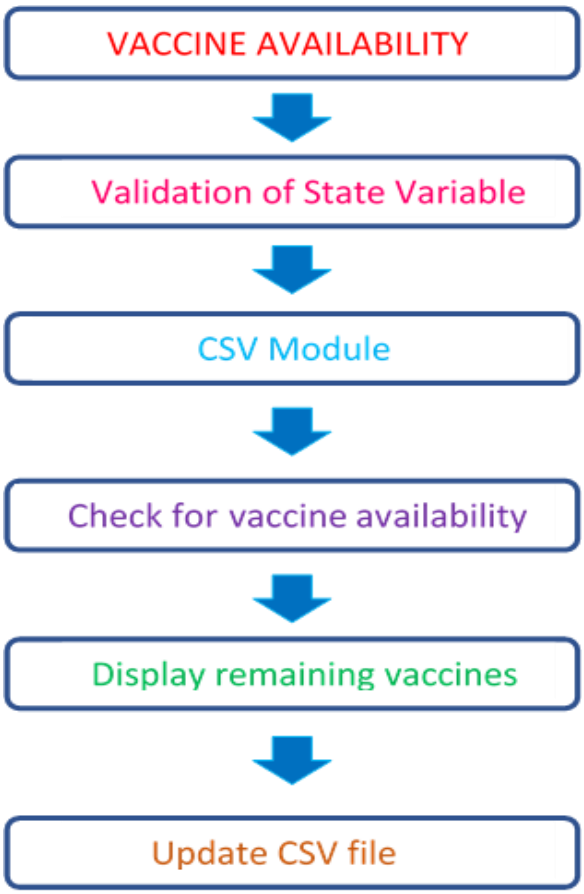
2]


DATABASE
Six Parameters
Stored in List
CSV Module
Append Mode “a”
MS Excel

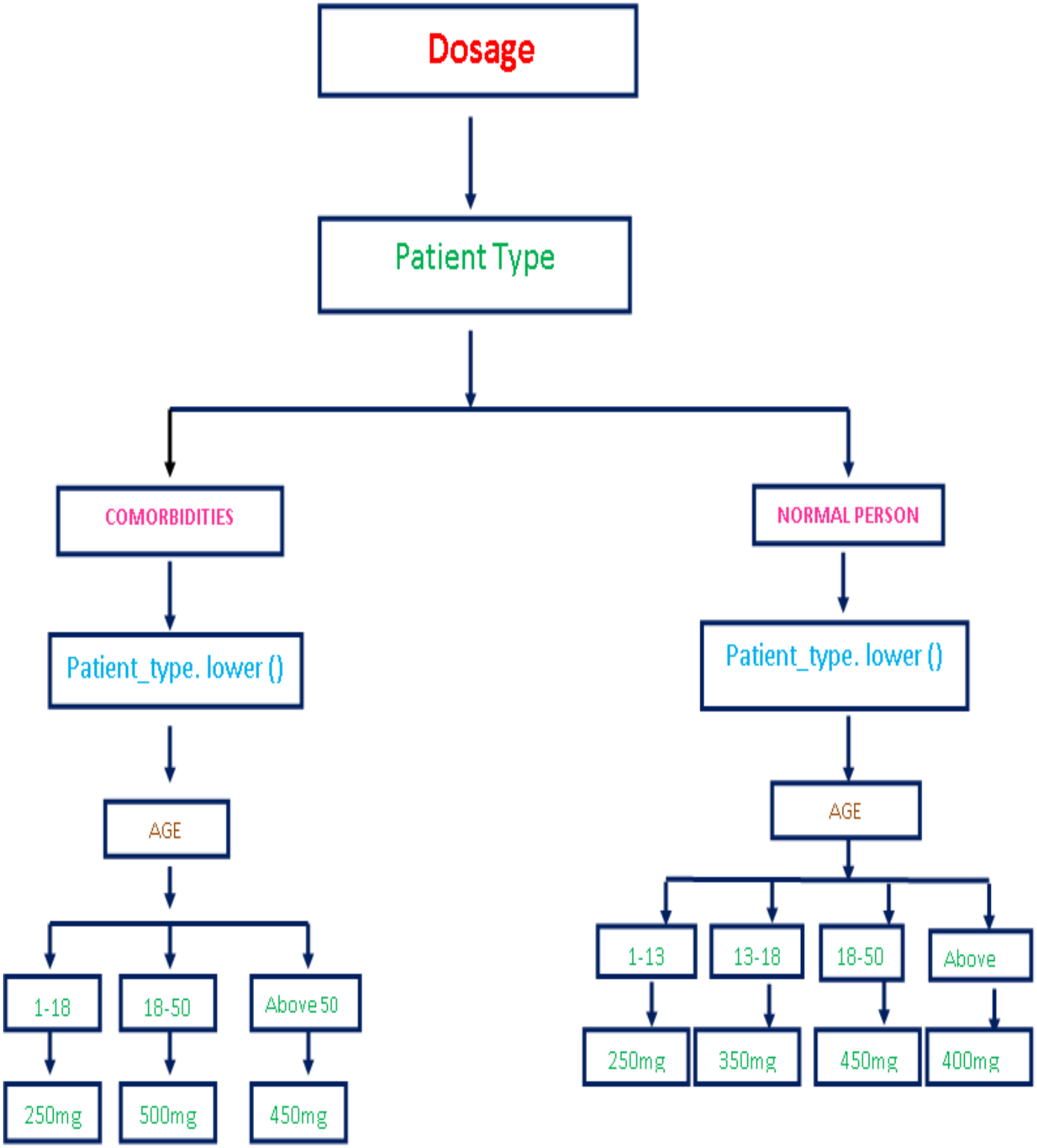
3]


MEDICAL ISSUES
1] Experienced Cold, Cough, Fever, Breathlessness
2] Have you tested against COVID-19
3] Free from COVID (normal)
PRINT
" We request you to follow the guidelines issued by the government .Don't forget to take the vaccine on your turn"
Whether the result is Positive or Negative.....(P/N)
PRINT
" Your Health condition is good But don't forget to take the vaccine on your turn"
PRINT
" your test is Positive Take the Vaccine immediately!!!"
PRINT
"your test is negative But don't forget to take the vaccine on your turn"

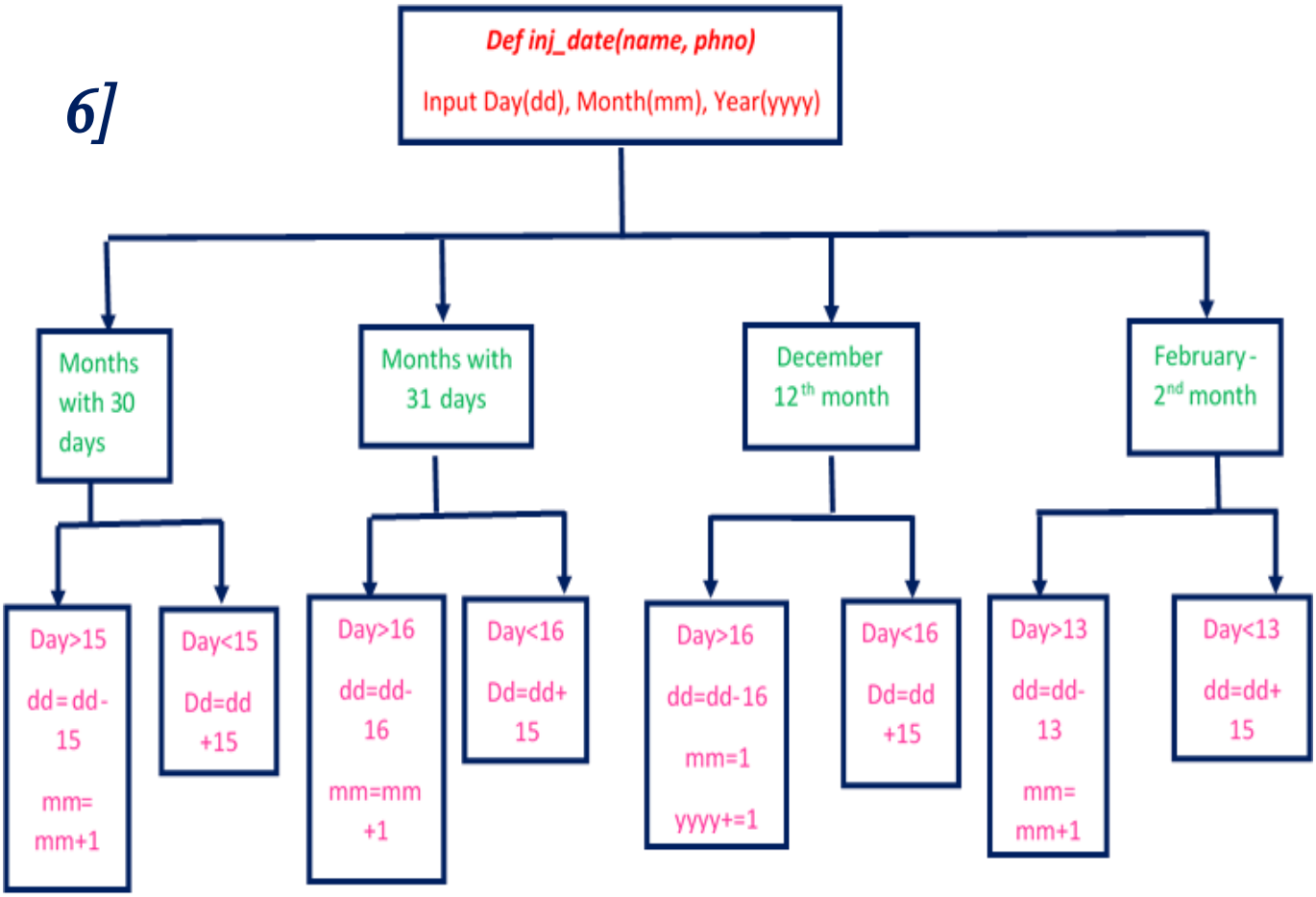
4]


VACCINE AVAILABILITY
Validation of State Variable
CSV Module
Check for vaccine availability
Display remaining vaccines
Update CSV file

5]


Dosage
Patient Type
COMORBIDITIES
NORMAL PERSON
Patient_type. lower ()
Patient_type. lower ()
AGE
AGE
1-18
18-50
Above 50
250mg
500mg
450mg
1-13
13-18
18-50
Above
250mg
350mg
450mg
400mg

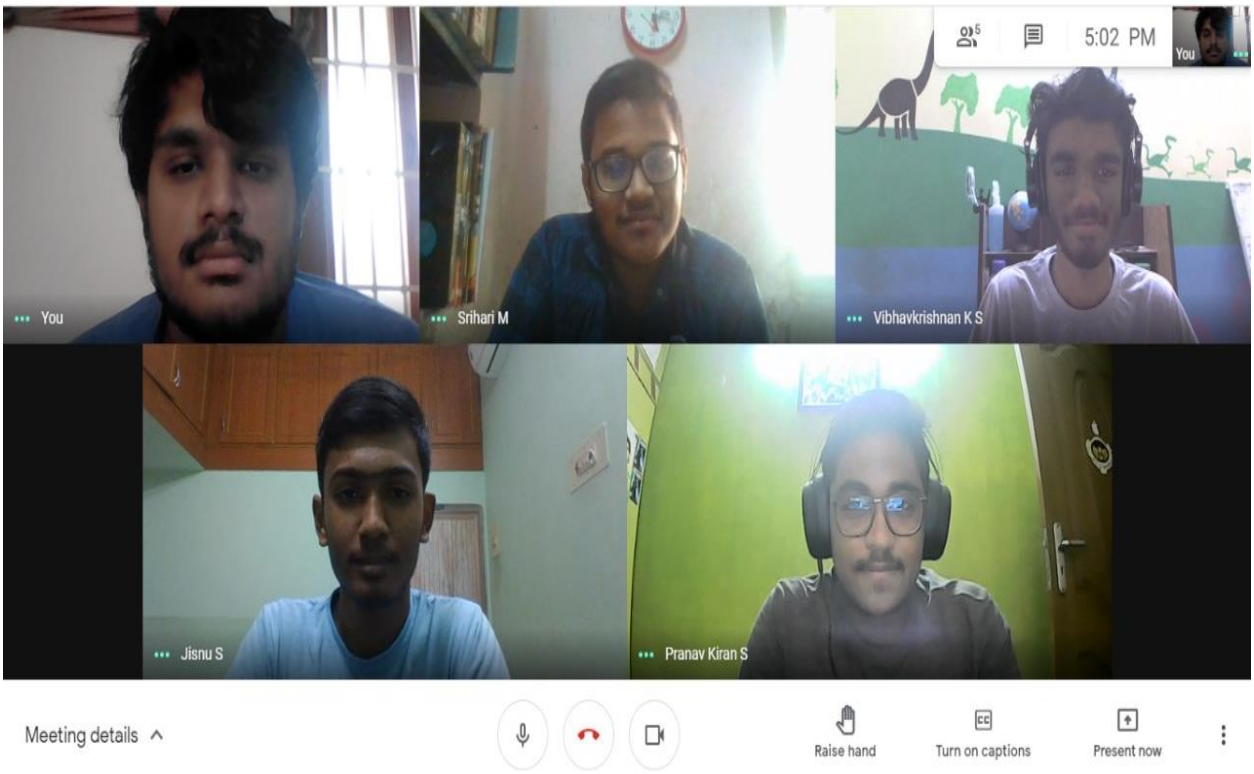
6]

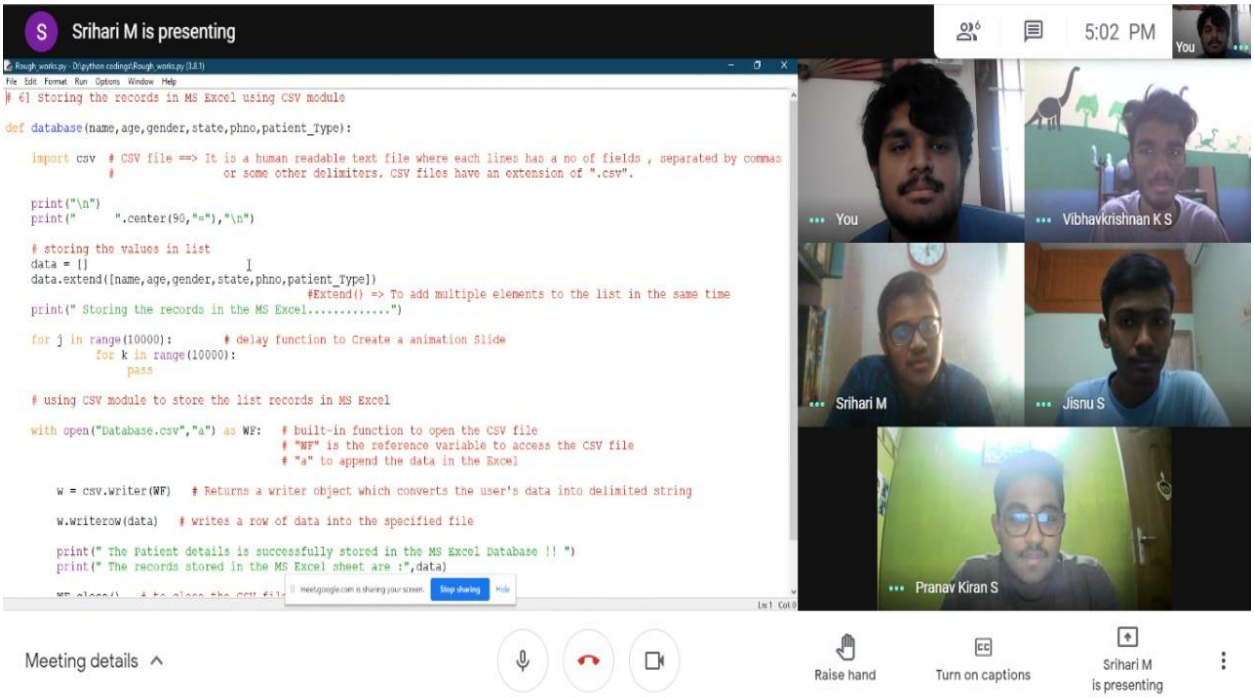


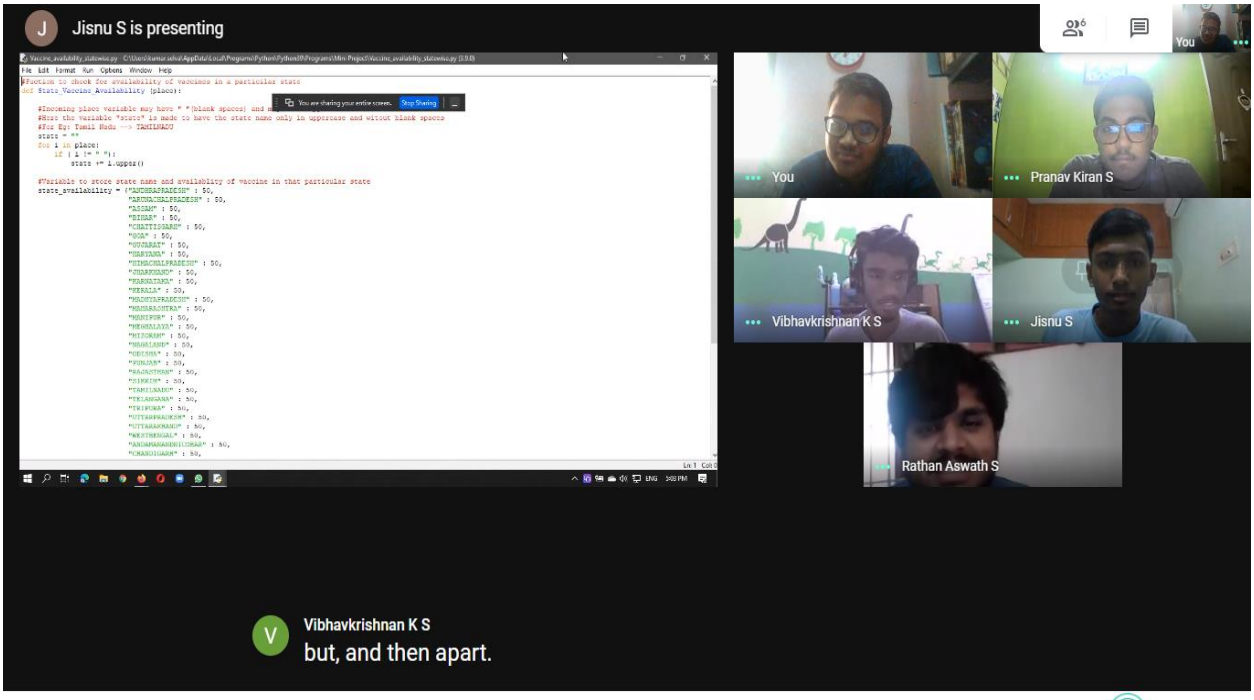
Team Split-up and their Responsibilities: -

SRI HARI. M	Patient Details MS Excel Database
JISNU. S	State Vaccine Availability
PRANAV KIRAN. S	Date Allotment
RATHAN ASWATH. S	Medical Issue
VIBHAV KRISHNAN. K. S	Validation for inputs Age Wise Dosage

Team Work : -


5:02 PM
You
You
Srihari M
Vibhavkrishnan K S
Jisnu S
Pranav Kiran S
Meeting details
Raise hand
Turn on captions
Present now


Srihari M is presenting
5:02 PM
You
# 6] Storing the records in MS Excel using CSV module
def database(name,age,gender,state,phno,patient_Type):
import csv # CSV file ==> It is a human readable text file where each lines has a no of fields , separated by commas
or some other delimitors. CSV files have an extension of ".csv".
print("\n")
print(" ".center(90,"="),"\n")
# storing the values in list
data = []
data.extend([name,age,gender,state,phno,patient_Type])
#Extend() => To add multiple elements to the list in the same time
print(" Storing the records in the MS Excel.....")
for j in range(10000): # delay function to Create a animation Slide
for k in range(10000):
pass
using CSV module to store the list records in MS Excel
with open("Database.csv","a") as WF: # built-in function to open the CSV file
# "WF" is the reference variable to access the CSV file
# "a" to append the data in the Excel
w = csv.writer(WF) # Returns a writer object which converts the user's data into delimited string
w.writerow(data) # writes a row of data into the specified file
print(" The Patient details is successfully stored in the MS Excel Database !! ")
print(" The records stored in the MS Excel sheet are :",data)
You
Vibhavkrishnan K S
Srihari M
Jisnu S
Pranav Kiran S
Meeting details
Raise hand
Turn on captions
Srihari M
is presenting

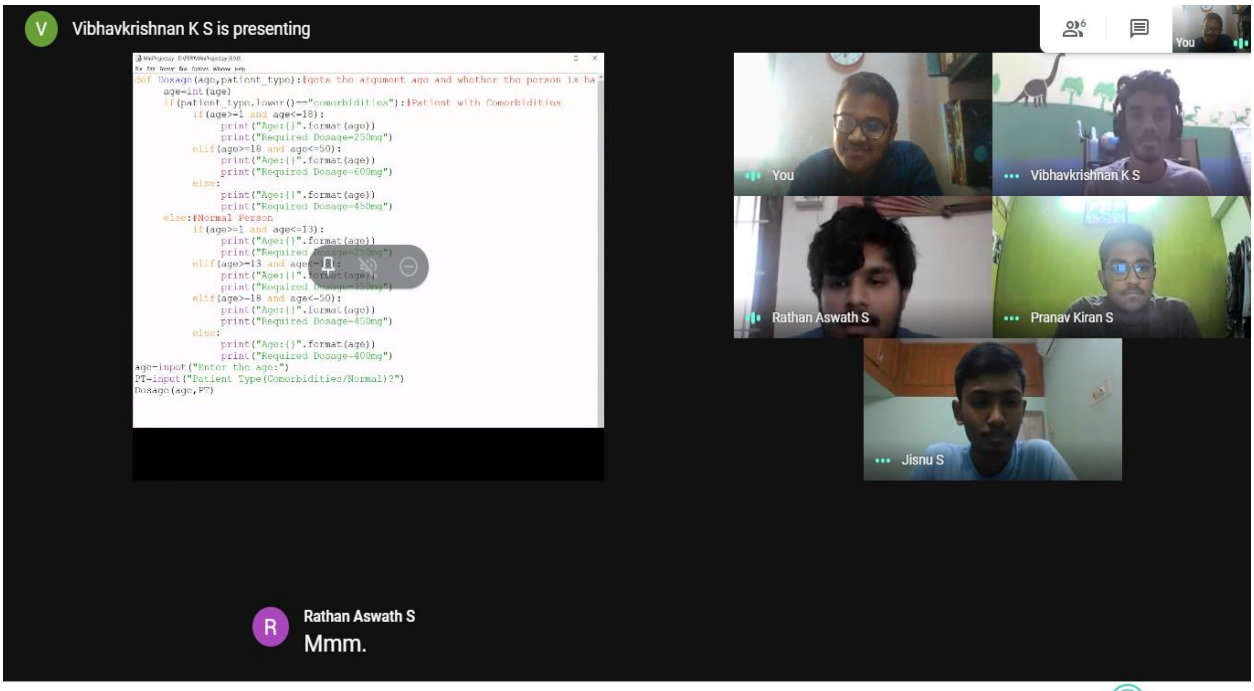


Meeting details

Raise hand

Turn off captions

Jisnu S is presenting

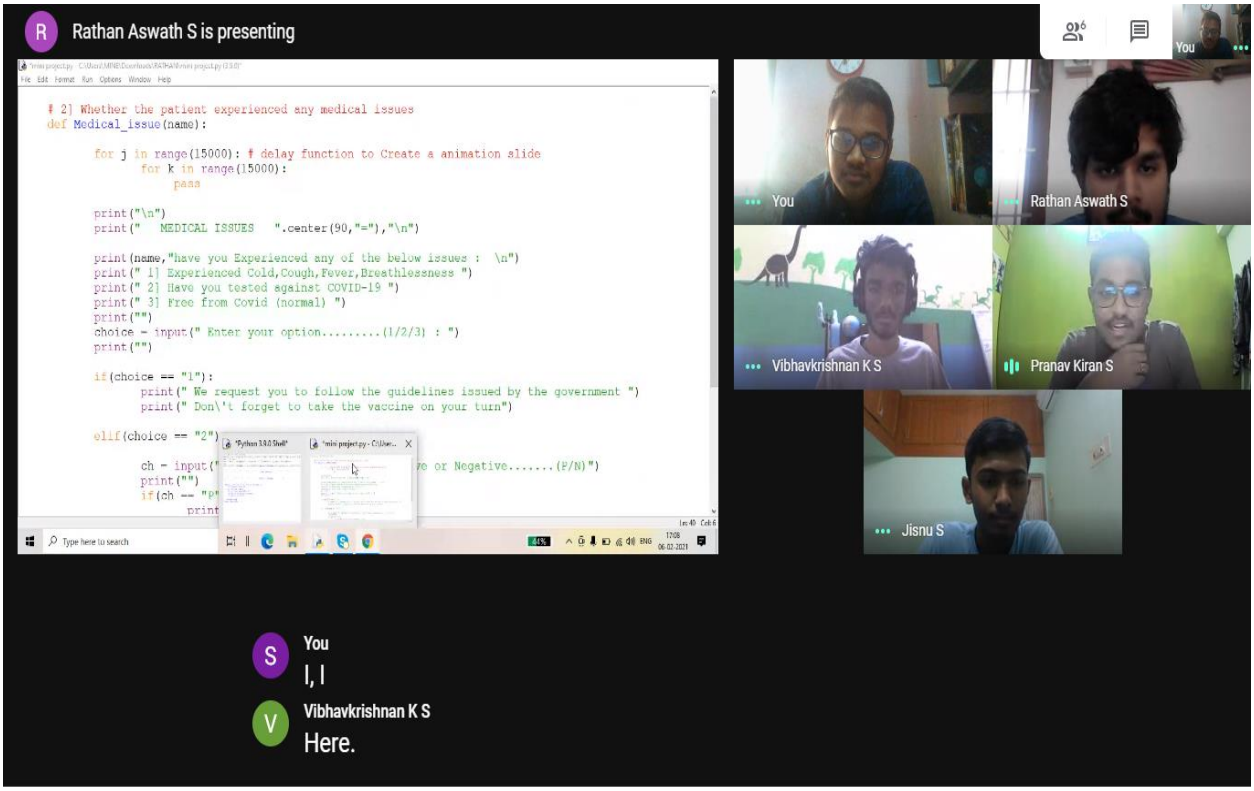


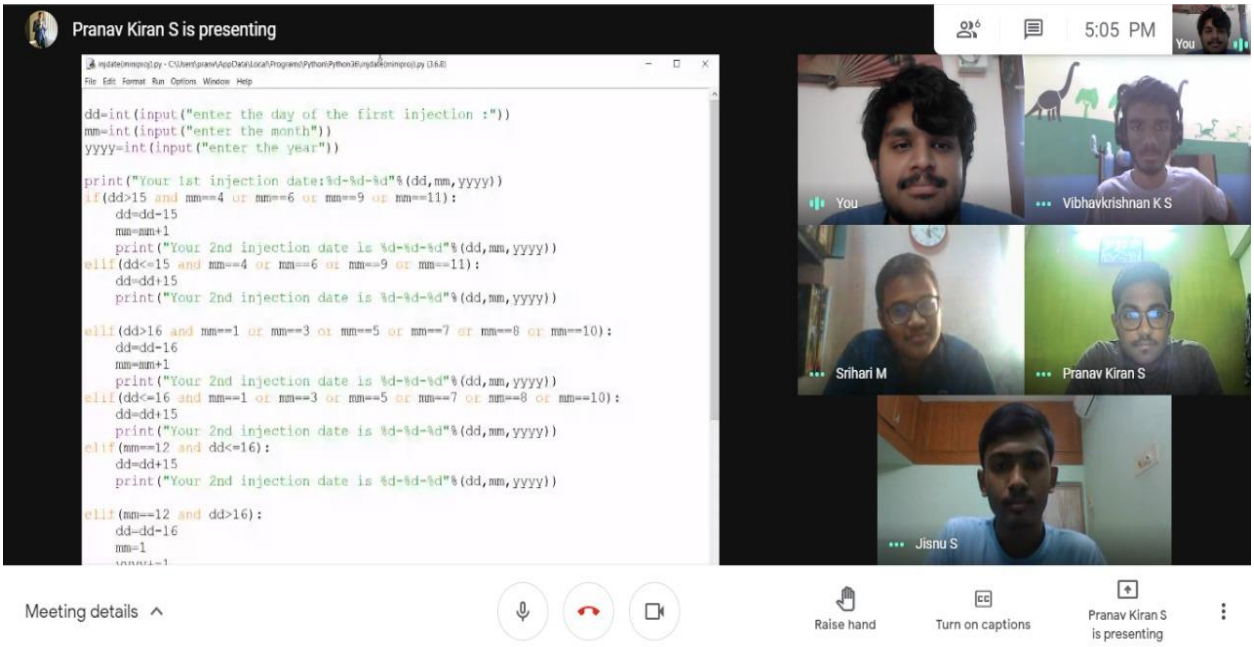
Meeting details

Raise hand

Turn off captions

Vibhavkrishnan K S is presenting


Rathan Aswath S is presenting
You
Rathan Aswath S
Vibhavkrishnan K S
Pranav Kiran S
Jisnu S
You
I, I
Vibhavkrishnan K S
Here.
Meeting details
Raise hand
Turn off captions
Rathan Aswath S is presenting


Pranav Kiran S is presenting
5:05 PM
You
Vibhavkrishnan K S
Srihari M
Pranav Kiran S
Jisnu S
Meeting details
Raise hand
Turn on captions
Pranav Kiran S is presenting

Algorithm : -

Patient Details : -

- The Display function gets six parameters from the main function
    - Name
    - Age
    - Gender
    - State
    - Phone number
    - Patient type
- This function is called to display the patient details in a table format.
- Print keyword is used to display the details.
- Center () is a built-in function in string data type. Syntax of center () function is center (width, fillchar).
- It returns a string with the original string centered to a total of width columns and filled with fillchar in columns that do not have characters.
- Example for center () function: -

```
>>> str1 = " Python"
>>> print (str1.center(10," = "))
==Python==
```

MS Excel Database : -

- The Database function is called to store the records in the MS Excel Database. It gets six parameters namely Name, Age, Gender, State, Phone number, Patient type.
- The values of the parameters are stored in list using Extend () built-in function.
- Extend () is used to add multiple elements to the list in the same time.
- Using CSV module, the elements in the list is stored in the MS Excel.
- CSV file is a human readable text file where each line has a no of fields, separated by commas or some other delimiters.

- CSV files have an extension of ".csv".
- Here ‘a’ mode used to append the records in the MS Excel database.

Medical Issue : -

- First of all created a time delay function to Create a animation slide
- An **if-elif-else** condition is used to check whether the person
  1)Experienced Cold, Cough, Fever, Breathlessness
  2)Have you tested against COVID-19
  3)Free from COVID (normal)
- Under the **elif** condition, we used **nested if-else** condition to check whether the patient is positive or negative Eg.) Have you tested against COVID-19

  If we enter **2**

  Whether the result is Positive or Negative**.....(P/N)**

  If we enter **P**

  PRINT**“ your test is Positive Take the Vaccine immediately!!!”**

  If we enter **N**

  PRINT **”your test is negative But don't forget to take the vaccine on your turn”**

Vaccine Availability : -

- The incoming string variable for place may be in upper or lower case and may also have blank spaces in it. So in order to have a standard state name , all characters are turned to uppercase and without any blank spaces in it.

  For Example : Tamil Nadu → TAMILNADU
- A csv file with various state name and corresponding vaccine availability is already created .

- The already created csv file is opened in read mode to read the availability of vaccines.
- The entire content in that file is read and converted to a list data type.
- Since every row in csv file is separated by an empty row, the empty lists present in the content list is removed.
- The content list is iterated throughout its content and following steps are performed :
  - If the given state is available with vaccines, "Vaccine Available" is printed and number of vaccines in that state is reduced by 1 in the content list variable.
  - Else, "Vaccine not available" is printed.
- Then the same csv file is opened in write mode to update the content.

Age Wise Dosage : -

- This function definiton gets two parameters as input from the main funtion-
  - Age
  - PatientType :- Whether the patient is normal or has some Comorbidities:-Whether He/She is suffering from Diabetics,Heartattack,Bp,etc
- Explicit conversion of the variable age is done for condition checking
- An if-else condition is checked whether the person has Comorbidities or not because Separate dosage should be given for people those who are suffering from the condition
  - True condition(if part) of the for loop checks for the patient who are suffering from Comorbidities
  - False condition(else part) of the for loop check for normal patients

- Inside the if condition lower function (.lower())is used to minimize the errors if so the person gives mixed character
  (Example :- ComOrbiDities)
  then while checking the condition string comparison is Case sensitive and it can cause errors.
- Inside the if condition and else condition Nested if-else concept is used which check for the age category of the patient and it prints the entered age and required dosage for the particular patient.

Date Allotment : -

- Define a function dateofvac() with name of the patients and phone number(phno) as parameters
- Initialise 3 variables (dd, mm, yyyy) to obtain the date(dd), month(mm), year(yyyy) of the 1st Vaccination sitting date from the programmer.
- The date entered is printed collectively and further processed with several conditions.
- The months are categorised as months with 30 days, months with 31 days. February has a separate condition as it has 28 days and the following conditions are checked using “IF-ELIF” statement
- Further, there is a separate condition for the dates before and after 15 days in the case of months with 30 days and 16 days before and after 16 days in the case of 31 days.
- For the 12th month December, when the date obtained is before 15th, then the date is added by 15. Whereas when the date is after 15th of the same month, the date is subtracted by 15 and year(yyyy) is added by 1.
- Similarly, for the 2nd month February, when the date obtained is before 13th, then the date is added by 15 and if the date is after 13th then the date is subtracted by 13 and the month(mm) is added by one.

Once when these conditions are checked, the 2nd Vaccination sitting date is sent to the respective patients phone number

COVID 19 Vaccination Coding : -

```
#                                   MINI PROJECT
#                                   COVID 19 PROJECT
#    Agenda for the COVID 19 mini project :-
#         1] Patient Details
#         2] MS Excel Database
#         3] Medical Issues
#         4] Vaccine Availability
#         5] Age wise Vaccine Dosage
#         6] Date Allotment
while(True):  # to iterate the project , till the user exit the project
   # 1] Displaying the Patient details in Table format
   def Display(name,age,gender,state,phno,patient_type):
      for j in range(10000):  # delay function to create a animation slide
          for k in range(10000):
              pass
      print("\n")
      print("   PATIENT DETAILS   ".center(90,"="),"\n")  # center() --> Returns a string with the original string centered to a total of width columns
      print("   NAME      AGE  GENDER    STATE       PHONE NUMBER    TYPE  ")
      print(name.center(12," "),
          age.center(5," "),
          gender.center(7," "),
          state.center(16," "),
```

```
            phno.center(14," "),
            patient_type.center(12," "))
    # 2] Storing the records in MS Excel using CSV module
    def database(name,age,gender,state,phno,patient_Type):
        for j in range(15000):      # delay function to Create a animation Slide
            for k in range(15000):
                pass
        import csv              # CSV file ==> It is a human readable text file where each lines has a no of fields , separated by  commas or some other delimiters.
        print("\n")
        print("  MS EXCEL DATABASE  ".center(90,"="),"\n")
        # storing the values in list
        data = []
        data.extend([name,age,gender,state,phno,patient_Type])
                                #Extend() => To add multiple elements to the list in the same time
        print(" Storing the records in the MS Excel.....")
        for j in range(8000):      # delay function to Create a animation Slide
            for k in range(8000):
                pass
        # using CSV module to store the list records in MS Excel
        with open("Excel_Database.csv","a") as WF:  # built-in function to open the CSV file
            w = csv.writer(WF)  # Returns a writer object which converts the user's data into delimited string
            w.writerow(data)  # writes a row of data into the specified file
            print("")
```

```
        print(" The Patient details is successfully stored in the MS Excel Database !! ")
        print(" The records stored in the MS Excel sheet are :",data)
        WF.close()  # to close the CSV file
# 3] Whether the patient experienced any medical issues
def Medical_issue(name):
    for j in range(15000): # delay function to Create a animation slide
        for k in range(15000):
            pass
    print("\n")
    print("   MEDICAL ISSUES   ".center(90,"="),"\n")
    print(name,"have you Experienced any of the below issues :  \n")
    print(" 1] Experienced Cold,Cough,Fever,Breathlessness ")
    print(" 2] Have you tested against COVID-19 ")
    print(" 3] Free from Covid (normal) ")
    print("")
    choice = input(" Enter your option.....(1/2/3) : ")
    print("")
    if(choice == "1"):
        print(" We request you to follow the guidelines issued by the government ")
        print(" Don\'t forget to take the vaccine on your turn")
    elif(choice == "2"):
        ch = input(" Whether the result is Positive or Negative.....(P/N)")
        print("")
        if(ch == "P"):
```

```
                print(" your test is Positive ")
                print(" Take the Vaccine immediately!!! ")
            else:
                print(" your test is negative ")
                print(" But don\'t forget to take the vaccine on your turn")
        else:
            print(" Your Health condition is good ")
            print(" But don\'t forget to take the vaccine on your turn")
    # 4] Function to check for availability of vaccines in a particilar state
    def State_Vaccine_Availability (state):
        import csv
        for j in range(15000):  # delay function to Create a animation slide
            for k in range(15000):
                pass
        print("\n")
        print("   VACCINE AVAILABILITY   ".center(90,"="),"\n")
        print(" Checking the Vaccine Availability in ",state,"..... \n")
        place = ""                  # input "State" may contain spaces or capital letters or small letters,
        for i in state:             # so converting all the letters to uppercase and without any spaces
            if ( i != " "):
                place += i.upper()
        #A .csv file with various statename and corresponding vaccineavailability is created
already
        #Opening the csv file in read mode to read the availability of vaccines
        with open ('AVAILABLEVAC.csv','r') as file1:
```

```
        content = csv.reader(file1)
        contentlist = list(content) #List to store each row of data as a list datatype
        #Removing empty lists in the content list
        contentlist = [i for i in contentlist if i != []]
        for i in range(len(contentlist)):
           if(place == contentlist[i][0]):
              #If vaccines are available, number of vaccines in that state is reduced by 1 and availability is displayed
              if (int(contentlist[i][1]) > 0 ):#If
                 print("  Vaccine Available")
                 contentlist[i][1] = str(int(contentlist[i][1]) - 1)
                 print("  Remaining Vaccine available in {} is {}".format(state,contentlist[i][1]))
              # If vaccine is not available in that particular state, "Vaccine not available is displayed "
              else:
                 print("  Vaccine not available")
     #Opening the csv file in write mode to update the data
     with open ('AVAILABLEVAC.csv','w') as file2:
        writer = csv.writer(file2)
        writer.writerows(contentlist) # writerows to store multiple rows to a csv file
  # 5] Age wise Vaccine dosage for the Patients
  def Dosage(age,patient_type):
     for j in range(15000):       # delay function to Create a animation Slide
        for k in range(15000):
           pass
```

```
    print("\n")
    print("   AGE WISE VACCINE DOSAGE   ".center(90,"="),"\n")
    print("  The patient age is ({}) and patient type is ({}) ".format(age,patient_type))
    print("")
    for j in range(10000):      # delay function to Create a animation Slide
        for k in range(10000):
            pass
    age = int(age)
    if(patient_type.lower()=="comorbidities"):   # Comorbidites --> The person who suffers from heartattack, sugar those traits
        if(age>=1 and age<=18):
            print("    Required Vaccine Dosage is (250 ml)")
        elif(age>=18 and age<=50):
            print("    Required Vaccine Dosage is (600 ml)")
        else:
            print("    Required Vaccine Dosage is (450 ml)")
    else:    #Normal Person
        if(age>=1 and age<=13):
            print("    Required Vaccine Dosage is (250 ml)")
        elif(age>=13 and age<=18):
            print("    Required Vaccine Dosage is (350 ml)")
        elif(age>=18 and age<=50):
            print("    Required Vaccine Dosage is (450 ml)")
        else:
            print("    Required Vaccine Dosage is (400 ml)")
```

```
# 6] Date Allotment for the patient to visit the Hospital
def inj_date(name,phno):
    for j in range(10000):      # delay function to Create a animation Slide
        for k in range(15000):
            pass
    print("\n")
    print("   DATE ALLOTMENT   ".center(90,"="),"\n")
    # Input for the Date and the Month
    year= 2021
    dd = int(input(" Enter the day (in Digit) :"))  # 23/7/2021 # 7/4/2021
    mm = int(input(" Enter the month (in Digit) :"))
    print(" Checking the availability of the Date ..... ")
    for j in range(10000):      # delay function to Create a animation Slide
        for k in range(10000):
            pass
    print("\n")
    print(" The Date is Available! ")
    print(" Your 1st injection date:{}-{}-{}".format(dd,mm,year))
    print(" . . . . . .")
    print(" Mr/Mrs.{}, The 2nd injection date will be sent to your mobile
no:{}".format(name,phno))
    print("\n")
    for j in range(15000):      # delay function to Create a animation Slide
        for k in range(15000):
            pass
```

```
# If statement to find the Date for Second injection
print(" Opening the Inbox Messages in the Phone.....")
print("")
if(dd>15 and mm==4 or mm==6 or mm==9 or mm==11):
   dd=dd-15
   mm=mm+1
   print("   Your 2nd injection date is {}-{}-{}".format(dd,mm,year))
elif(dd<=15 and mm==4 or mm==6 or mm==9 or mm==11):
   dd=dd+15
   print("   Your 2nd injection date is {}-{}-{}".format(dd,mm,year))
elif(dd>16 and mm==1 or mm==3 or mm==5 or mm==7 or mm==8 or mm==10):
   dd=dd-16
   mm=mm+1
   print("   Your 2nd injection date is {}-{}-{}".format(dd,mm,year))
elif(dd<=16 and mm==1 or mm==3 or mm==5 or mm==7 or mm==8 or mm==10):
   dd=dd+15
   print("   Your 2nd injection date is {}-{}-{}".format(dd,mm,year))
elif(mm==12 and dd<=16):
   dd=dd+15
   print("   Your 2nd injection date is {}-{}-{}".format(dd,mm,year))
elif(mm==12 and dd>16):
   dd=dd-16
   mm=1
   year+=1
```

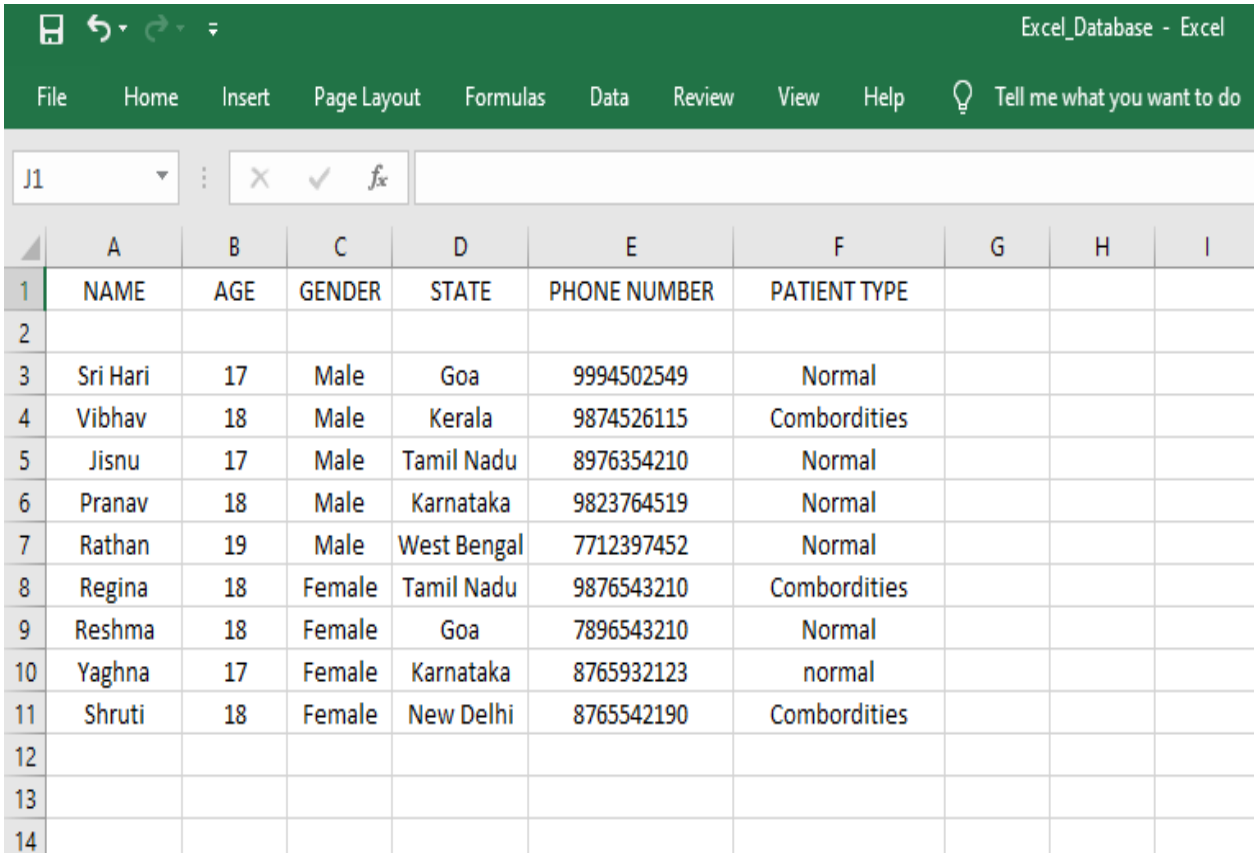
```
        print("   Your 2nd injection date is {}-{}-{}".format(dd,mm,year))
    elif(mm==2 and dd<=13):
        dd=dd+15
        print("   Your 2nd injection date is {}-{}-{}".format(dd,mm,year))
    elif(mm==2 and dd>13):
        dd=dd-13
        print("   Your 2nd injection date is {}-{}-{}".format(dd,mm,year))
    for j in range(10000):      # delay function to Create a animation Slide
            for k in range(10000):
                pass
    print("\n")
    print(" Wear Mask; keep Social Distance and Stay Healthy !!!!!! ".center(90,"`"))
# DRIVER CODE
# Display the Project Agenda
print("\n")
print("   MINI PROJECT   ".center(90,"`"),"\n")
print("   COVID 19 PROJECT   ".center(90,"`"),"\n")
print("  Agenda for the COVID 19 mini project :-   ")
print("     1] Patient Details ")
print("     2] MS Excel Database  ")
print("     3] Medical Issue ")
print("     4] Vaccine Availability ")
print("     5] Age wise Vaccine Dosage ")
print("     6] Date Allotment \n ")
```

```
# Input for the program
def Input_Validation():
    import re
    States_list =
["ANDHRAPRADESH","ARUNACHALPRADESH","ASSAM","BIHAR","CHATTISGARH","GOA","
GUJARAT","HARYANA","HIMACHALPRADESH","JHARKHAND","KARNATAKA","KERALA","M
ADHYAPRADESH","MAHARASHTRA","MANIPUR","MEGHALAYA","MIZORAM","NAGALAND
","ODISHA","PUNJAB","RAJASTHAN","SIKKIM","TAMILNADU","TELANGANA","TRIPURA","
UTTARPRADESH","UTTARAKHAND","WESTBENGAL","ANDAMANANDNICOBAR","CHANDI
GARH","DAMANANDDIU","DELHI","JAMMUANDKASHMIR","LADAKH","LAKSHADWEEP","
PUDUCHERRY"]
    print("   INFORMATION:-     ")
    while (True):  # input to get NAME
        name = input(" Enter name: ")
        if(bool(re.match('[a-zA-Z\s]+$', name))):
            break
        else:
            print(" Invalid Input")
    while (True):  # input to get AGE
        age = input(" Enter age: ")
        if(bool(re.match('[\d]{2}$', age))):
            break
        else:
            print(" Invalid Input")
    gender = input(" Enter your Gender( Male / Female / Others ): ") # input to get Gender
    while (True):  # input to get STATE NAME
```

```
        state = input(" Enter state: ")
        place = ""            # input "State" may contain spaces or capital letters or small letters,
        for i in state:       # so converting all the letters to uppercase and without any spaces
            if ( i != " "):
                place += i.upper()
        if(place in States_list):
            break
        else:
            print(" Invalid Input")
    while (True):  # input to get PHONE NUMBER
        phone_number = input(" Enter phone number: ")
        if(bool(re.match('[\d]{10}$', phone_number))):
            break
        else:
            print(" Invalid Input")
    patient_type = input(" Patient Type( Comorbidities / Normal ): ")    #Comorbidites --> The person who suffers from  heart attack, sugar those traits
    return(name, age, gender, state, phone_number, patient_type)
Name,Age,Gender,State,Phno,Patient_Type = Input_Validation()
# Validation for the inputs
# Calling the functions
Display(Name,Age,Gender,State,Phno,Patient_Type)
database(Name,Age,Gender,State,Phno,Patient_Type)
Medical_issue(Name)
State_Vaccine_Availability(State)
```

```
Dosage(Age,Patient_Type)
inj_date(Name,Phno)
# To Leave the Project
print("\n")
Choice = input(" Do you want to Exit the Page..... (y / n)  ")
if(Choice == "y"):
    print()
    print(" Leaving the Project..... ")
    break
```

Screenshots of the outcome : -

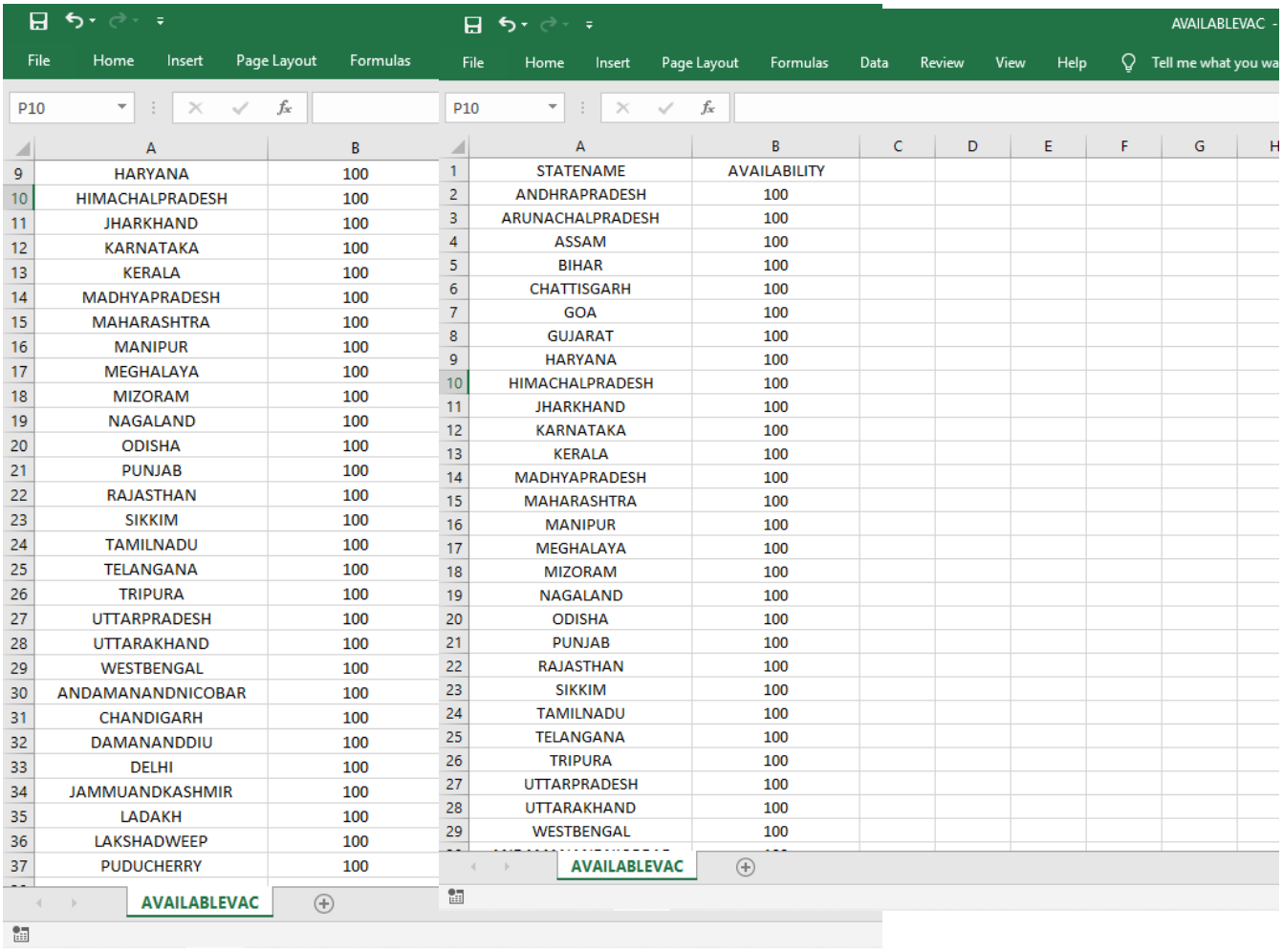


Excel_Database - Excel

File Home Insert Page Layout Formulas Data Review View Help Tell me what you want to do

J1

	A	B	C	D	E	F	G	H	I
1	NAME	AGE	GENDER	STATE	PHONE NUMBER	PATIENT TYPE			
2									
3	Sri Hari	17	Male	Goa	9994502549	Normal			
4	Vibhav	18	Male	Kerala	9874526115	Combordities			
5	Jisnu	17	Male	Tamil Nadu	8976354210	Normal			
6	Pranav	18	Male	Karnataka	9823764519	Normal			
7	Rathan	19	Male	West Bengal	7712397452	Normal			
8	Regina	18	Female	Tamil Nadu	9876543210	Combordities			
9	Reshma	18	Female	Goa	7896543210	Normal			
10	Yaghna	17	Female	Karnataka	8765932123	normal			
11	Shruti	18	Female	New Delhi	8765542190	Combordities			
12									
13									
14									



	A	B
9	HARYANA	100
10	HIMACHALPRADESH	100
11	JHARKHAND	100
12	KARNATAKA	100
13	KERALA	100
14	MADHYAPRADESH	100
15	MAHARASHTRA	100
16	MANIPUR	100
17	MEGHALAYA	100
18	MIZORAM	100
19	NAGALAND	100
20	ODISHA	100
21	PUNJAB	100
22	RAJASTHAN	100
23	SIKKIM	100
24	TAMILNADU	100
25	TELANGANA	100
26	TRIPURA	100
27	UTTARPRADESH	100
28	UTTARAKHAND	100
29	WESTBENGAL	100
30	ANDAMANANDNICOBAR	100
31	CHANDIGARH	100
32	DAMANANDDIU	100
33	DELHI	100
34	JAMMUANDKASHMIR	100
35	LADAKH	100
36	LAKSHADWEEP	100
37	PUDUCHERRY	100

AVAILABLEVAC

	A	B
1	STATENAME	AVAILABILITY
2	ANDHRAPRADESH	100
3	ARUNACHALPRADESH	100
4	ASSAM	100
5	BIHAR	100
6	CHATTISGARH	100
7	GOA	100
8	GUJARAT	100
9	HARYANA	100
10	HIMACHALPRADESH	100
11	JHARKHAND	100
12	KARNATAKA	100
13	KERALA	100
14	MADHYAPRADESH	100
15	MAHARASHTRA	100
16	MANIPUR	100
17	MEGHALAYA	100
18	MIZORAM	100
19	NAGALAND	100
20	ODISHA	100
21	PUNJAB	100
22	RAJASTHAN	100
23	SIKKIM	100
24	TAMILNADU	100
25	TELANGANA	100
26	TRIPURA	100
27	UTTARPRADESH	100
28	UTTARAKHAND	100
29	WESTBENGAL	100

AVAILABLEVAC

```
`````````````````````````````````````  MINI PROJECT  `````````````````````````````````````

`````````````````````````````````````  COVID 19 PROJECT  `````````````````````````````````````

 Agenda for the COVID 19 mini project :-
    1] Patient Details
    2] MS Excel Database
    3] Medical Issue
    4] Vaccine Availability
    5] Age wise Vaccine Dosage
    6] Date Allotment

   INFORMATION:-
Enter name: Sri Hari
Enter age: 17
Enter your Gender( Male / Female / Others ): Male
Enter state: Tamil Nadu
Enter phone number: 9994502549
Patient Type( Comorbidities / Normal ): Normal
```

```
==================================   PATIENT DETAILS   ==================================

   NAME       AGE  GENDER     STATE         PHONE NUMBER     TYPE
 Sri Hari     17    Male     Tamil Nadu      9994502549      Normal



================================ MS EXCEL DATABASE ================================

 Storing the records in the MS Excel.............

 The Patient details is successfully stored in the MS Excel Database !!
 The records stored in the MS Excel sheet are : ['Sri Hari', '17', 'Male', 'Tamil Nadu', '9994502549', 'Normal']

==================================   MEDICAL ISSUES   ==================================

Sri Hari have you Experienced any of the below issues :

 1] Experienced Cold,Cough,Fever,Breathlessness
 2] Have you tested against COVID-19
 3] Free from Covid (normal)

 Enter your option.........(1/2/3) : 2

 Whether the result is Positive or Negative.......(P/N)N

 your test is negative
 But don't forget to take the vaccine on your turn

==============================   VACCINE AVAILABILITY   ==============================

Checking the Vaccine Availability in  Tamil Nadu ..............

 Vaccine Available
 Remaining Vaccine available in Tamil Nadu is 99

============================   AGE WISE VACCINE DOSAGE   ============================

 The patient age is (17) and patient type is (Normal)

   Required Vaccine Dosage is (350 ml)
```

```
==================================   DATE ALLOTMENT   ==================================

Enter the day (in Digit) :23
Enter the month (in Digit) :04
Checking the availability of the Date .................


The Date is Available!
Your 1st injection date:23-4-2021
. . . . . .
Mr/Mrs.Sri Hari, The 2nd injection date will be sent to your mobile no:9994502549


Opening the Inbox Messages in the Phone...................

  Your 2nd injection date is 8-5-2021


`````````````````` Wear Mask; keep Social Distance and Stay Healthy !!!!!! ``````````````````


Do you want to Exit the Page..... (y / n)  y

Leaving the Project...........
>>>
```

Conclusion : -

- This program is to check for the vaccine availability and decide the dosage of vaccine and allotment of date for vaccination executed properly for valid inputs.

- Further this program can be considered as a model and developed with additional features (mentioned in future work) to make it feasible and usable for the COVID-19 vaccination.
```

Future Work : -

- Addition of Aadhar verification as a basic criterion to identify the user's nationality.
- The person can be checked whether he/she is already vaccinated or not based on their Aadhar number.
- Based on the feasibility, availability of vaccines in each district of each state can be made available.
- Further, a restriction like each day at a particular state only a particular number of vaccinations may be done and date for vaccination can be allotted based on this.
- Further a menu to select state, age, date and medical issues can be developed in order for the ease of the user.
- Colorful and more interactive front end with pop ups can be developed to enrich the user experience.

Reference : -

- geeksforgeeks.org
- programiz.com
- realpython.com
- Problem Solving and Python Programming [Reema Thareja]

Thank you !