# OOP INNOVATIVE ASSIGNMENT COWIN REGISTRATION

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## **CONCEPTS USED:**

- Class we have used various classes for preliminary booking and final slot booking
- Methods all the user inputs are being taken in the methods and also generation of OTP, generation of date & time etc
- Strings name, Aadharcard number, password etc are stored as string.
- Random Number Generation used to generate OTP, generate the date and time
- Local Date & Time Display shows the current date & time of booking
- Method Overloading Display class has multiple methods having the same name but different in parameters
- Inheritance variables and methods from Registration class to slot booking class
- Thread used to set a delay of about 5 seconds while generating OTP

- Exception handling (Try-Catch) we have use Exception Handling for file handling purpose
- File handling used to print the 1st dose and final certificates

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## CODE:

```
import java.util.Scanner; import
java.util.Random; import java.io.FileWriter;
import java.io.BufferedWriter; import
java.io.IOException; import java.io.Writer;
import java.time.LocalDateTime; import
java.time.format.DateTimeFormatter; import
java.time.format.FormatStyle; import
java.io.*; import java.lang.Thread;
class Registration
String MobileNumber;
String Name;
long OTP;
int rand;
String pass;
int x;
int Vaccine;
  void Details()
    Scanner sc = new Scanner(System.in);
```

```
System.out.println();
  System.out.println("-----
-----");
   System.out.println("\t\tWELCOME TO COWIN Registration.
VACCINATE YOURSELF AND LETS FIGHT AGAINST COVID-19
TOGETHER");
  System.out.println("-----
System.out.println();
   System.out.print("DEAR USER, PLEASE ENTER YOUR FIRST NAME(IN
CAPITAL)
                 : ");
   Name = sc.nextLine();
   System.out.print("PLEASE ENTER YOUR MOBILE NUMBER
: ");
   MobileNumber = sc.nextLine();
   System.out.println();
  System.out.println("-----
----·');
   System.out.println("OTP LOADING. PLEASE WAIT!");
 }
 void OtpGeneration()
   Scanner sc = new Scanner(System.in);
  System.out.println("-----
-----");
   System.out.println();
   System.out.println();
Random x = new Random();
rand = x.nextInt(1000000) + 1;
   try
   Thread.sleep(5000);
```

```
System.out.println("YOUR OTP IS " + rand);
   }
   catch (Exception e) {
   System.out.println(e);
   System.out.print("ENTER THE GIVEN OTP
: ");
   OTP = sc.nextLong();
   System.out.println();
   System.out.println();
   System.out.println("-----
 }
 void OtpVerification()
   Scanner sc = new Scanner(System.in);
   System.out.println("PLEASE WAIT WHILE WE VERIFY YOUR OTP");
   if (rand == OTP)
    System.out.println("YOU HAVE ENTERED THE CORRECT OTP. LET'S
PROCEED FURTHER");
     System.out.println("-----
-----");
    System.out.println();
   }
else
   {
     System.out.println("YOUR OTP IS WRONG. WE WILL SEND
ANOTHER OTP. ENTER IT CAREFULLY");
    System.out.println("-----
-----;(");
```

```
System.out.println();
      System.out.println();
      try {
        System.out.print("LOADING....");
        System.out.println();
        System.out.println();
        Thread.sleep(5000);
        System.out.print("YOUR NEW OTP IS ");
Random x = new Random();
                                        rand =
x.nextInt(1000000) + 1;
        System.out.println(rand);
    }
    catch (Exception e) {
      System.out.println(e);
    }
      System.out.print("ENTER THE GIVEN OTP
: ");
      OTP = sc.nextLong();
      System.out.println("-----
    }
 }
  void DisplayMobileNumber()
try
      LocalDateTime current = LocalDateTime.now();
      DateTimeFormatter formatter =
Date Time Formatter. of Localized Date Time (Format Style. MEDIUM); \\
      String formatted = current.format(formatter);
```

```
FileWriter F = new FileWriter("F:Certificate.txt");
      F.write("-----
      F.write("\n");
      F.write("\t\t\t\tACCOUNT DETAILS FOR DOSE 1");
      F.write("\n");
      F.write("\n");
      F.write("Date And Time : " + formatted);
      F.write("\n");
      F.write("MOBILE NUMBER
                                 : ");
      F.write(MobileNumber);
      F.write("\n");
      F.close();
}
    catch (IOException e)
    {
      System.out.println("Unexpected error occurred");
      e.printStackTrace();
    }
 }
class Slot_Booking extends Registration
  int Number;
String AadharCardNumber;
String strName;
String strGender;
int YearOfBirth;
```

```
String VaccineType;
String Center;
String BookingTime;
String BookingDate;
int rand1, rand2;
  void Password Set()
    Scanner sc = new Scanner(System.in);
    x = 0;
    System.out.println();
    System.out.print("PLEASE SET YOUR PASSWORD WITH LENGTH
FROM 8-32 CHARACTERS
                                      :");
pass = sc.nextLine();
    System.out.println();
System.out.println();
    int length = pass.length();
int flag = 0;
    if (!(length \geq 8 && length \leq 32))
    {
do
      {
        System.out.println("\n\tERROR! LENGTH OF YOUR PASSWORD
SHOULD BE LENGTH 8 - 32 CHARACTERS ENTER IT ONCE AGAIN: ");
        System.out.print("PLEASE SET YOUR PASSWORD WITH LENGTH
                                      :");
FROM 8-32 CHARACTERS
                         sc.nextLine();
        pass
length
                         pass.length();
```

```
if (length
System.out.println();
>= 8 && length <= 32)
flag = 1;
break;
X++;
      }
while (x < 3);
      {
      if (!(length >= 8 && length <= 32))
      {
         System.out.println("\n\tSORRY - YOU HAVE EXHAUSTED THE
MAXIMUM TRIALS ..");
      }
    }
     }
else
flag = 1;
  }
  void Booking()
  {
    Scanner sc = new Scanner(System.in);
    int total = 0;
    System.out.println("/********************************/");
    System.out.print("ENTER THE 12 DIGIT AADHAR CARD NUMBER
: ");
    AadharCardNumber = sc.nextLine();
int Alength = AadharCardNumber.length();
```

```
int flag = 0, x = 0;
   System.out.print("ENTER YOUR FULL NAME
: ");
   strName = sc.nextLine();
   System.out.print("ENTER YOUR GENDER
: ");
   strGender = sc.nextLine();
   System.out.print("ENTER YOUR YEAR OF BIRTH
: ");
   YearOfBirth = sc.nextInt();
if(YearOfBirth>2003)
     System.out.println();
     System.out.println();
     System.out.println("-----
-----");
     System.out.println("\t\t\SORRY! YOUR ARE 18 OR LESS YEARS OLD
SO YOU ARE NOT ELIGIBLE TO TAKE VACCINE");
     System.out.println("-----
-----:("):
     System.out.println();
     System.out.println();
     System.exit(0);
   }
   System.out.println("THE DETAILS OF " + strName + " SAVED
SUCCESSFULLY");
   System.out.println();
System.out.println();
 }
 void Slot()
```

```
{
   Scanner sc = new Scanner(System.in);
   System.out.print("CHOOSE THE VACCINE TYPE FROM BELOW
OPTIONS\n");
   System.out.println("\t->1.COVISHIELD");
   System.out.println("\t->2.COVAXIN");
   System.out.println("\t->3.PFIZER");
   System.out.println("\t->4.MODERNA");
   System.out.println("\t->5.SPUTNIK V");
   System.out.print("VACCINE TYPE
: ");
   VaccineType = sc.nextLine();
 }
 void Appoinment()
 {
   Scanner sc = new Scanner(System.in);
   System.out.println("NOW WE WILL SCHEDULE YOUR 1st DOSE
                  System.out.println("-----
APPOINTMENT");
-----");
   System.out.print("CHOOSE YOUR NEAREST VACCINATION CENTER
WHICH IS CONVENIENT TO YOU
                                  : ");
   Center
               sc.nextLine();
Random x1 = new Random();
rand1 = x1.nextInt(30) + 1;
Random x2 = new Random();
rand2 = x2.nextInt(6) + 1;
   System.out.println("-----
-----");
   System.out.println();
System.out.println();
 }
```

```
void Appoinment2()
   Scanner sc = new Scanner(System.in);
   System.out.println("NOW WE WILL SCHEDULE YOUR 2nd DOSE
APPOINTMENT");
   System.out.println("-----
-----");
   System.out.println("CHOOSE YOUR NEAREST VACCINATION CENTER
WHICH IS CONVENIENT TO YOU
                                : ");
   Center = sc.nextLine();
Random x1 = new Random();
rand1 = x1.nextInt(27) + 1;
Random x2 = new Random();
rand2 = x2.nextInt(6) + 1;
   System.out.println("-----
-----");
   System.out.println();
   System.out.println();
 }
 void DisplayOtherDetails()
 {
try
   {
     BufferedWriter writer = new BufferedWriter(
new FileWriter("F:Certificate.txt", true));
                          : ");
writer.write("Name
writer.write(strName); writer.write("\n");
```

```
writer.write("-----
 .-----");
writer.write("\n");
    writer.write("YearOfBirth" + "\t\t" + "AadharCardNumber" + "\t\t" +
"gender");
writer.write("\n");
    writer.write(" "+YearOfBirth + "\t\t\" +" "+ AadharCardNumber +
"\t\t\t" +" "+ strGender);
writer.write("\n");
    writer.write("-----
-----");
writer.write("\n");
               writer.write("DOSE:1 | "
+"VaccineType:"+VaccineType);
    writer.write("\n");
    writer.write("-----
-----;("-------;
writer.write("\n");
               writer.write("Center" + "\t\t" +" "+ "Date" + "\t\t"
+ "Time");
         writer.write("\n");
    writer.write(Center + "\t' + rand1 + "-12-2021" + "\t' + rand2 + " PM");
writer.write("\n");
    writer.write("-----
-----");
writer.write("\n"); writer.write("DOSE:2"); writer.write("\n");
    writer.write("APPOINMENT IS NOT AVAIABLE");
    writer.write("\n");
    writer.write("-----
 writer.close();
  }
  catch (IOException e)
  {
    System.out.println("Unexpected error occurred");
```

```
e.printStackTrace();
   }
 }
   void Dose2()
    Scanner sc=new Scanner(System.in);
    String password;
    System.out.print("ENTER YOUR PASSWORD TO BOOK YOUR SLOT
                         : ");
FOR DOSE 2
                                 password = sc.nextLine();
if(pass.equals(password))
    {
try {
       BufferedWriter writer = new BufferedWriter(
       new FileWriter("F:Certificate.txt", true));
writer.write("\n");
                   writer.write("\n");
writer.write("\n");
*************************
writer.write("\n");
writer.write("\n");
writer.write("\n");
       writer.write("\t\t\t\tACCOUNT DETAILS FOR DOSE 2");
       writer.write("\n");
       writer.write("-----
  -----");
writer.write("\n");
```

```
writer.write("YearOfBirth" + "\t\t" + "AadharCardNumber" + "\t\t"
+ "gender");
       writer.write("\n");
       writer.write(" "+YearOfBirth + "\t\t\" +" "+ AadharCardNumber
+ "\t\t" +" "+ strGender);
       writer.write("\n");
       writer.write("-----
  writer.write("\n");
                     writer.write("DOSE:1 | "
+"VaccineType:"+VaccineType);
       writer.write("\n");
       writer.write("-----
 -----");
writer.write("\n");
                     writer.write("Center" + "\t\t" +" "+ "Date" +
                   writer.write("\n");
"\t" + "Time");
       writer.write(Center + "\t\t" + rand1 + "-12-2021" + "\t" + rand2 + "
PM");
       writer.write("\n");
       writer.write("-----
           -----");
                    writer.write("DOSE:2 | "
writer.write("\n");
+"VaccineType:"+VaccineType);
       writer.write("\n");
       writer.write("-----
          -----");
                     writer.write("Center" + "\t\t" +" "+ "Date" +
writer.write("\n");
'' \ t \ t'' + "Time");
                   writer.write("\n");
       writer.write(Center + "\t\t" + rand1 + "-03-2022" + "\t" + rand2 + "
PM");
       writer.write("\n");
```

```
writer.write("-----
writer.write("\n");
                       writer.write("\n");
                                              writer.close();
       catch (IOException e)
        System.out.println("Unexpected error occurred");
        e.printStackTrace();
}
else
      System.out.println("YOUR PASSWROD IS INCORRECT.ENTER IT
ONCE AGAIN");
      System.out.print("ENTER YOUR PASSWORD TO BOOK YOUR SLOT
                            : ");
FOR DOSE 2
                                        password = sc.nextLine();
if(pass.equals(password))
try {
        BufferedWriter writer = new BufferedWriter(
         FileWriter("F:Certificate.txt",
                                     true));
new
writer.write("\n");
                             writer.write("\n");
writer.write("\n");
**************************
***********************************
        writer.write("\n");
writer.write("\n");
```

writer.writ				·");
	writer.write("	\t\t\t\t\tACCO	OUNT DETAILS FOR D	OSE 2");
	writer.write("	\n");		
writer.writ				),
+ "gender")		YearOfBirth" + "	\t\t" + "AadharCardNu	$imber" + " \t \t"$
	writer.write("	\n");		
+ "\t\t\t" -	writer.write(" +" "+ strGende		+ "\t\t" +" "+ Aadha	arCardNumber
			writer.write("	
	e("DOSE:1  " -	-");          v +"VaccineType:"+	vriter.write("\n");	
	writer.write("			
writer.writ	e("\n");		te("Center" + "\t\t" +"	, ,
PM");			rand1 + "-12-2021" + "\	t" + rand2 + "
	writer.write("	\n");		
writer.writ			te("DOSE:2  "	·");
+"VaccineT	'ype:"+Vaccine'	Гуре);		
	writer.write("	\n");		
	writer.write("			
				");

```
writer.write("\n");
                           writer.write("Center" + "\t\t" +" "+ "Date" +
"\t" + "Time");
                        writer.write("\n");
          writer.write(Center + "\t\t" + rand1 + "-03-2022" + "\t" + rand2 + "
PM");
          writer.write("\n");
          writer.write("-----
             -----");
writer.write("\n");
                  writer.write("\n");
                                                     writer.close();
        catch (IOException e)
          System.out.println("Unexpected error occurred");
          e.printStackTrace();
        }
}
else
      {
        System.out.println("\n\tSORRY - YOU HAVE EXHAUSTED THE
MAXIMUM TRIALS ..");
      }
      }
 }
}
public class Innovative extends Registration {
public static void main(String[] args) {
    Scanner sc=new Scanner(System.in);
    Registration R = new Registration();
    R.Details();
    R.OtpGeneration();
    R.OtpVerification();
```

```
S.Password_Set();
    S.Booking();
    S.Slot();
    S.Appoinment();
    R.DisplayMobileNumber();
    S.DisplayOtherDetails();
    System.out.print("ENTER 1 FOR BOOKING YOUR APPOINMENT FOR
DOSE-2 OR 2 FOR DOSE-1 AND 3 FOR EXIT :");
    int Num=sc.nextInt();
if(Num==1)
    {
      S.Dose20;
try
    {
      System.out.println();
      System.out.println();
      System.out.println("PLEASE WAIT YOUR CERTIFICATE IS BEING
GENERATED");
      Thread.sleep(5000);
      System.out.println("YOUR CERTIFICATE IS READY PLEASE CHECK
IT");
      System.out.println();
      System.out.println();
      catch (Exception e)
  {
    System.out.println(e);
```

Slot\_Booking S = new Slot\_Booking();

# OUTPUT Photos & Explanation:

```
PS C:\Users\Deil\Documents\karan_gondaliya's_OOP.java> cd "c:\Users\Deil\Documents\karan_gondaliya's_OOP.java\"; if ($?) { java Innovative }

WELCOME TO COWIN Registration. VACCINATE YOURSELF AND LETS FIGHT AGAINST COVID-19 TOGETHER

DEAR USER, PLEASE ENTER YOUR FIRST NAME(IN CAPITAL) : KARAN
PLEASE ENTER YOUR MOBILE NUMBER : 7016001231

OTP LOADING. PLEASE WAIT!

YOUR OTP IS 376788
ENTER THE GIVEN OTP : 376787

PLEASE WAIT WHILE WE VERIFY YOUR OTP
YOUR OTP IS WRONG. WE WILL SEND ANOTHER OTP. ENTER IT CAREFULLY

LOADING....

YOUR NEW OTP IS 690889
ENTER THE GIVEN OTP : 690889
ENTER THE GIVEN OTP : 690889
```

#### Explanation 1

We start running the program  $-1^{st}$ , we call the Registration class where within the method: void Details() – we take input of Name and Mobile Number. There are 2 other methods in class Registration – namely void OTPGeneration() & void OTPVerification().

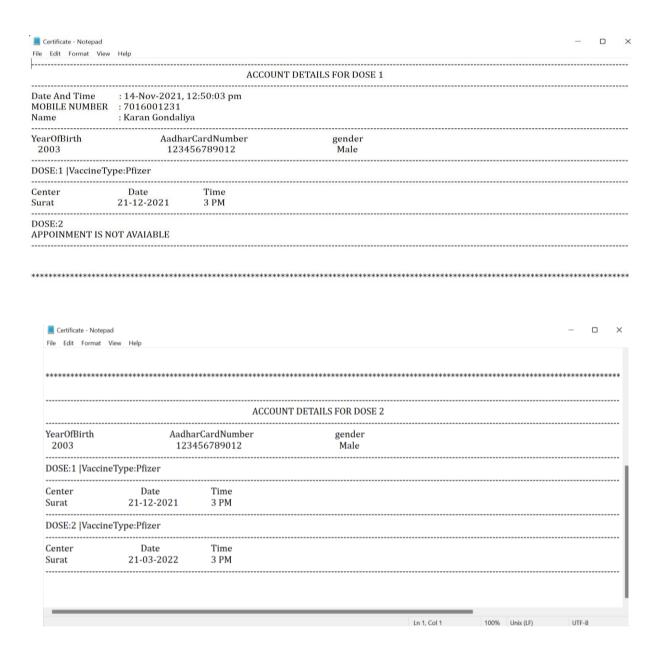
Using Random Number Generation concept – an OTP is generated. Before the OTP is displayed, we have used Thread.sleep wherein we give a delay of 5 seconds. Once you enter the OTP, void OTPVerification() method verifies if it is correct or not. We give 1 more try to the user if it is incorrectly entered. If correctly entered, we proceed further ahead.

### Explanation 2

Next, in the class SlotBooking() which inherits class Registration—in the method void PasswordSet() - The user is asked to set the password between 8-32 characters. We have validated it, i.e if <8 or >32 characters — user has to enter it again — total 3 tries are given. Only if valid syntax of password, we proceed to void Booking() where other important details like Aadhar Card Number, Gender, Birth year are stored. The user is asked for his choice of vaccine in the void Slot() method and place of vaccination in void Appointment() — in the same method — using random numbers — date and time of appointment is also fixed. Now using void DisplayOtherDetails() — wherein we have used file handling, the certificate is printed in a text file which is shown on the next page — user is given a choice whether to schedule 1st dose for a family member or 2nd dose for himself.

Here, we see that user has clicked on scheduling dose 2 – he is asked for password through method-void Dose2() – if he enters correct password, automatically his  $2^{nd}$  dose is scheduled approximately 3 months from the  $2^{nd}$  dose and again using file handling, we print the final vaccination certificate

\*



Now, let us book a slot for another user - the same process is followed as above and this is just to demonstrate that multiple people can book their slots

\*

WELCOME TO COWIN Registration. VACCINATE YOURSELF AND L	ETS FIGHT AGAINST COVID-19 TOGETHER				
DEAR USER, PLEASE ENTER YOUR FIRST NAME(IN CAPITAL) PLEASE ENTER YOUR MOBILE NUMBER	: DEVANSH : 9825573604				
OTP LOADING. PLEASE WAIT!					
YOUR OTP IS 330033					
ENTER THE GIVEN OTP	: 330033				
PLEASE WAIT WHILE WE VERIFY YOUR OTP YOU HAVE ENTERED THE CORRECT OTP. LET'S PROCEED FURTHER					
PLEASE SET YOUR PASSWORD WITH LENGTH FROM 8-32 CHARACTERS	: 09876543				
/*********************/					
ENTER THE 12 DIGIT AADHAR CARD NUMBER	: 098765432109				
ENTER YOUR FULL NAME	: Devansh Shah				
ENTER YOUR GENDER ENTER YOUR YEAR OF BIRTH	: Male : 2002				
THE DETAILS OF Devansh Shah SAVED SUCCESSFULLY	. 2002				
/**********************/					

ENTER THE GIVEN OTP	: 330033
PLEASE WAIT WHILE WE VERIFY YOUR OTP YOU HAVE ENTERED THE CORRECT OTP. LET'S PROCEED FURTHER	
PLEASE SET YOUR PASSWORD WITH LENGTH FROM 8-32 CHARACTERS	: <b>098</b> 76543
/*******************************/ ENTER THE 12 DIGIT AADHAR CARD NUMBER ENTER YOUR FULL NAME ENTER YOUR GENDER ENTER YOUR YEAR OF BIRTH THE DETAILS OF Devansh Shah SAVED SUCCESSFULLY /***********************************	: 098765432109 : Devansh Shah : Male : 2002
CHOOSE THE VACCINE TYPE FROM BELOW OPTIONS ->1.COVISHIELD ->2.COVAXIN ->3.PITZER ->4.MODERNA ->5.SPUTNIK V VACCINE TYPE	: Covaxine
NOW WE WILL SCHEDULE YOUR 1st DOSE APPOINTMENT CHOOSE YOUR NEAREST VACCINATION CENTER WHICH IS CONVENIENT TO YOU	: Baroda
ENTER 1 FOR BOOKING YOUR APPOINMENT FOR DOSE-2 OR 2 FOR DOSE-1 AND 3 FOR EXIT PS C:\Users\Dell\Documents\karan_gondaliya's_OOP.java>	: 3

			Γ DETAILS FOR DOSE 1	
	: 14-Nov-2021	, 1:40:13 pm		
YearOfBirth 2002	AadharCardNumber 098765432109		gender Male	
DOSE:1  VaccineT				
Center Baroda	Date 7-12-2021	Time 1 PM		

This is the certificate generated for  $2^{nd}$  person (as dose 2 is not yet scheduled – we have kept it as appointment details not available)

\*

WELCOME TO COWIN Registration. VACCINATE YOU	JRSELF AND LETS FIGHT AGAINST COVID-19 TOGETHER
DEAR USER, PLEASE ENTER YOUR FIRST NAME(IN CAPITAL) PLEASE ENTER YOUR MOBILE NUMBER	: DHRUV : 9510714316
OTP LOADING. PLEASE WAIT!	
YOUR OTP IS 396906 ENTER THE GIVEN OTP	: 396906
PLEASE WAIT WHILE WE VERIFY YOUR OTP YOU HAVE ENTERED THE CORRECT OTP. LET'S PROCEED FURTHER	
PLEASE SET YOUR PASSWORD WITH LENGTH FROM 8-32 CHARACTERS	: 12345678
/**************************/	
ENTER THE 12 DIGIT AADHAR CARD NUMBER	: 123456789012
ENTER YOUR FULL NAME	: Dhruv Prajapati
ENTER YOUR GENDER	: Male
ENTER YOUR YEAR OF BIRTH	: 2004
SORRY! YOUR ARE 18 OR LESS YEARS OLD SO YOU	ARE NOT ELIGIBLE TO TAKE VACCINE

We have also kept a validation in the age in void Booking() method – as the vaccine isn't available to those below 18 years, in case if someone enters their birth year >=2004 the program is terminated

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