

Passport Info

- Passport_Number : String
- First_Name : String
- Last_Name : String
- NID_Number : String
- Date_of_Birth : String
- Picture : Color [][]

- PassportInfo ()
- + PassportInfo buildPassport()
- + getPassport_Number(): String
- + getFirst_Name(): String
- + getLast_Name(): String
- + getNID_Number(): String
- + getDate_of_Birth(): String
- + getPicture(): Color [][]
- + setPassport_Number(Passport_Number: String): Void
- + setFirst_Name(First_Name: String): Void
- + setLast_Name(Last_Name: String): Void
- + setNID_Number(NID_Number: String): Void
- + setDate_of_Birth(Date_of_Birth: String): Void
- + setPicture(Picture: Color [][]): Void
- + toString(): String

Semester - Spring 2021

Assignment - 3

GenerateRandomPassportInfo

+ All_NTD_Numbers : String[]

+ All_Passport_Numbers : String[]

+ ChooseName() : String

+ generateNTD() : String

+ generatePassportNumber() : String

+ generateBirthdate() : String

+ generatePicture() : color[][]

+ Builder(PassportInfo[]) : void

+ main()

Driver class

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```
Package com.Shadmansakib

import java.util.Random;
import java.time.LocalDate;
import java.format.DateFormatter;
import java.awt.Color;
import java.util.Scanner;

public class GenerateRandomPassportInfo {
    public static String ChooseName() {
        String[] names = {"Ava", ..., "Harold"};

        Random random = new Random();
        int i = random.nextInt(names.length);
        return names[i];
    } // closing chooseName.

    public static String generateNID() {
        StringBuilder sb = new StringBuilder();
        Random random = new Random();
        String FirstDigit = "123456789";
        String Digits = "0123456789";
        sb.append(FirstDigit.charAt(random.nextInt(FirstDigit.length())));
        for (int i = 1; i < 10; i++) {
            sb.append(Digits.charAt(random.nextInt(Digits.length())));
        }
        return sb.toString();
    } // closing generate NID
```

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```
public static String generatePassportNumber() {  
    StringBuilder sb = new StringBuilder();  
    Random random = new Random();  
    String Capital = "ABCDEFGHIJKLMNOPQRSTUVWXYZ";  
    String Digits = "0123456789";  
    for (int i = 0; i < 2; i++) {  
        sb.append(Capital.charAt(random.nextInt(Capital.length())));  
    }  
    for (int i = 2; i < 9; i++) {  
        sb.append(Digits.charAt(random.nextInt(Digits.length())));  
    }  
    return sb.toString();  
} // closing Generate Passport Number  
  
public static String generateBirthdate() {  
    Random random = new Random();  
    int min = (int) LocalDate.of(1940, 1, 1).toEpochDay();  
    int max = (int) LocalDate.of(2001, 1, 1).toEpochDay();  
    long Birthdate = min + random.nextInt(max - min);  
    DateTimeFormatter dtf = DateTimeFormatter.ofPattern("MM-dd-y");  
    return dtf.format(LocalDate.ofEpochDay(Birthdate));  
} // closing generateBirthdate
```

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```
public static Color[][] generatePicture() {  
    Color[][] picture = new Color[40][50];  
    int row, col;  
    Random random = new Random();  
    for (col = 0; col < 40; col++) {  
        for (row = 0; row < 50; row++) {  
            int r = random.nextInt(256);  
            int g = random.nextInt(256);  
            int b = random.nextInt(256);  
            Color randomColor = new Color(r, g, b);  
            picture[col][row] = randomColor;  
        }  
    }  
    return picture;  
} // closing generatePicture  
  
public static String[] All_NID_Numbers = new String[15];  
public static String[] All_Passport_Numbers = new String[15];  
  
public static void Builder(PassportInfo[] obj) {  
    // Assigning Passport Number  
    obj[0].setPassport_Number(generatePassportNumber());  
    All_Passport_Numbers[0] = obj[0].getPassport_Number();  
    for (int i = 1; i < 15; i++) {  
        obj[i].setPassport_Number(generatePassportNumber());  
        All_Passport_Numbers[i] = obj[i].getPassport_Number();  
        if (All_Passport_Numbers[i].equals(All_Passport_Numbers[i-1])) {  
            i--;  
            System.out.println("Existing Passport Number! Recreating...");  
        }  
    }  
} // closing for loop
```

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```
// Assigning First Name, Last Name, Date, Picture
for (int i = 0; i < 15; i++) {
    obj[i].setFirst_Name(chooseName());
    obj[i].setLast_Name(chooseName());
    obj[i].setDate_Of_Birth(generateBirthdate());
    obj[i].setPicture(generatePicture());
}

// Assigning NID
obj[0].setNID_Number(generateNID());
All_NID_Numbers[0] = obj[0].getNID_Number();
for (int i = 1; i < 15; i++) {
    obj[i].setNID_Number(generateNID());
    All_NID_Numbers[i] = obj[i].getNID_Number();
    if (All_NID_Numbers[i].equals(All_NID_Numbers[i-1])) {
        All_NID_Numbers[i] = null;
    }
}

} // closing Builder

public static void main (String[] args) {
    System.out.println ("Program Begins...");
    PassportInfo[] obj = new PassportInfo[15];
    for (int i = 0; i < 15; i++) {
        obj[i] = PassportInfo.buildPassport();
    }
    Builder (obj);
}
```

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```
System.out.println("Display NIBs: ");
for (int i = 0; i < 15; i++) {
    System.out.printf("(%02d) %s. ", i+1, All_NIB_Numbers[i]);
}
System.out.println("\n\nTo see Passport, Enter NIB: ");
Scanner input = new Scanner(System.in);
String NIB = input.nextLine();

for (int i = 0; i < 15; i++) {
    if (NIB.equals(obj[i].getNIB_Number())) {
        System.out.println(obj[i].toString());
    }
}
} // closing main
} // closing GenerateRandomPassportInfo class
```

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```
package com.shadmansatib
```

```
import java.awt.Color;
```

```
import java.util.Arrays;
```

```
public class PassportInfo {
```

```
    private String Passport_Number;
```

```
    private String First_Name;
```

```
    private String Last_Name;
```

```
    private String NID_Number;
```

```
    private String Date_of_Birth;
```

```
    private Color[] Picture;
```

```
    private PassportInfo() {
```

```
        this.Passport_Number = getPassport_Number();
```

```
        this.First_Name = getFirst_Name();
```

```
        this.Last_Name = getLast_Name();
```

```
        this.NID_Number = getNID_Number();
```

```
        this.Date_of_Birth = getDate_of_Birth();
```

```
        this.Picture = getPicture();
```

```
}
```

```
    public static PassportInfo buildPassport() {
```

```
        return new PassportInfo();
```

```
}
```

```
    public String getPassport_Number() {
```

```
        return this.Passport_Number;
```

```
}
```

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```
public void setPassport_Number (String Passport_Number) {  
    this.Passport_Number = Passport_Number;  
}  
public String getFirst_Name () {  
    return this.First_Name;  
}  
public void setFirst_Name (String First_Name) {  
    return this.First_Name = First_Name;  
}  
public String getLast_Name () {  
    return this.Last_Name; }  
public String void setLast_Name (String Last_Name) {  
    this.Last_Name = Last_Name; }  
public String getNID_Number () {  
    return this.NID_Number; }  
public void setNID_Number (String NID_Number) {  
    this.NID_Number = NID_Number; }  
public String getDate_of_Birth () {  
    return this.Date_of_Birth; }  
public void setDate_of_Birth (String Date_of_Birth) {  
    this.Date_of_Birth = Date_of_Birth; }  
public Color[][] getPicture () {  
    return this.Picture; }  
public void setPicture (Color[][] Picture) {  
    this.Picture = Picture; } }
```

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```
public String toString() {  
    StringBuilder sb = new StringBuilder();  
    sb.append("\n Passport Info: ");  
    sb.append("\n Passport Number = ").append(Passport Number);  
    sb.append("\n First Name = ").append(First Name);  
    sb.append("\n Last Name = ").append(Last Name);  
    sb.append("\n NID Number = ").append(NID Number);  
    sb.append("\n Date Of Birth = ").append(Date Of Birth);  
    sb.append("\n Picture = ").append(Arrays.toString(Picture));  
    return sb.toString();  
}  
} //End of class
```

P.S All comments are written in the .java file.