Final Assessment

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Section: PC_I

Ans to the question No-1_a

A/

```
abstract class Person {
    public String getDate_of_birth;
    public String Desingnation;
    public String date_of_birth;

    void setDesingnation(String desingnation) {
        Desingnation = desingnation;

    }


    public void setDate_of_birth(String date_of_birth) {
        this.date_of_birth = date_of_birth;
    }

    public String getDesingnation() {

        return Desingnation;
    }

    public Byte getAge() {
        Byte a = null;
        return a;

    }
}

interface EmployerProfessor {
    public void employPeople();
```

```
}

class HeadofDept extends Person implements EmployerProfessor {

    private double wage;
    public double getWage() {
        return wage;
    }

    public void setWage(double wage) {
        this.wage = wage;
    }

    public void manage() {
        System.out.println("All works is Managed");
    }

    @Override
    public void employPeople() {
        System.out.println("We work for Education");

    }

    void setDesingnation(String desingnation) {
        Desingnation = desingnation;

    }


    public void setDate_of_birth(String date_of_birth) {
        this.date_of_birth = date_of_birth;
    }

    public String getDesingnation() {
        return Desingnation;

    }

    public Byte getAge() {
        int gap = 2021 - Integer.parseInt(date_of_birth);
        Byte a = (byte) gap;
        return a;
    }
}

class Profossor extends Person implements EmployerProfessor {
    private double wage;

    public double getWage() {
        return wage;
    }

    public void setWage(double wage) {
        this.wage = wage;
    }

    @Override
    public void employPeople() {
        System.out.println("I am profossor of this varsity");
    }

    void setDesingnation(String desingnation) {
        Desingnation = desingnation;

    }


    public void setDate_of_birth(String date_of_birth) {
        this.date_of_birth = date_of_birth;
    }

    public String getDesingnation() {
        return Desingnation;

    }

    public Byte getAge() {
        int gap = Integer.parseInt(date_of_birth) - 2021;
        Byte a = (byte) gap;
        return a;
    }
}

class Student extends Person {
    private Byte grade;
    private double wage;
    public double getWage() {
        return wage;
    }

    public void setWage(double wage) {
        this.wage = wage;
    }
    public Byte getGrade() {
        if(grade<3)System.out.println("\nYour result is not
good"); //uses of else if
        else System.out.println("\nYour result is not bad ");
        return grade;
    }

    public void setGrade(Byte grade) {
        this.grade = grade;
    }

    void setDesingnation(String desingnation) {
        Desingnation = desingnation;

    }


    public void setDate_of_birth(String date_of_birth) {
        this.date_of_birth = date_of_birth;
    }

    public String getDesingnation() {
        return Desingnation;
    }

    public Byte getAge() {
        int gap = Integer.parseInt(date_of_birth) - 2021;
        Byte a = (byte) gap;
        return a;
    }
}
```

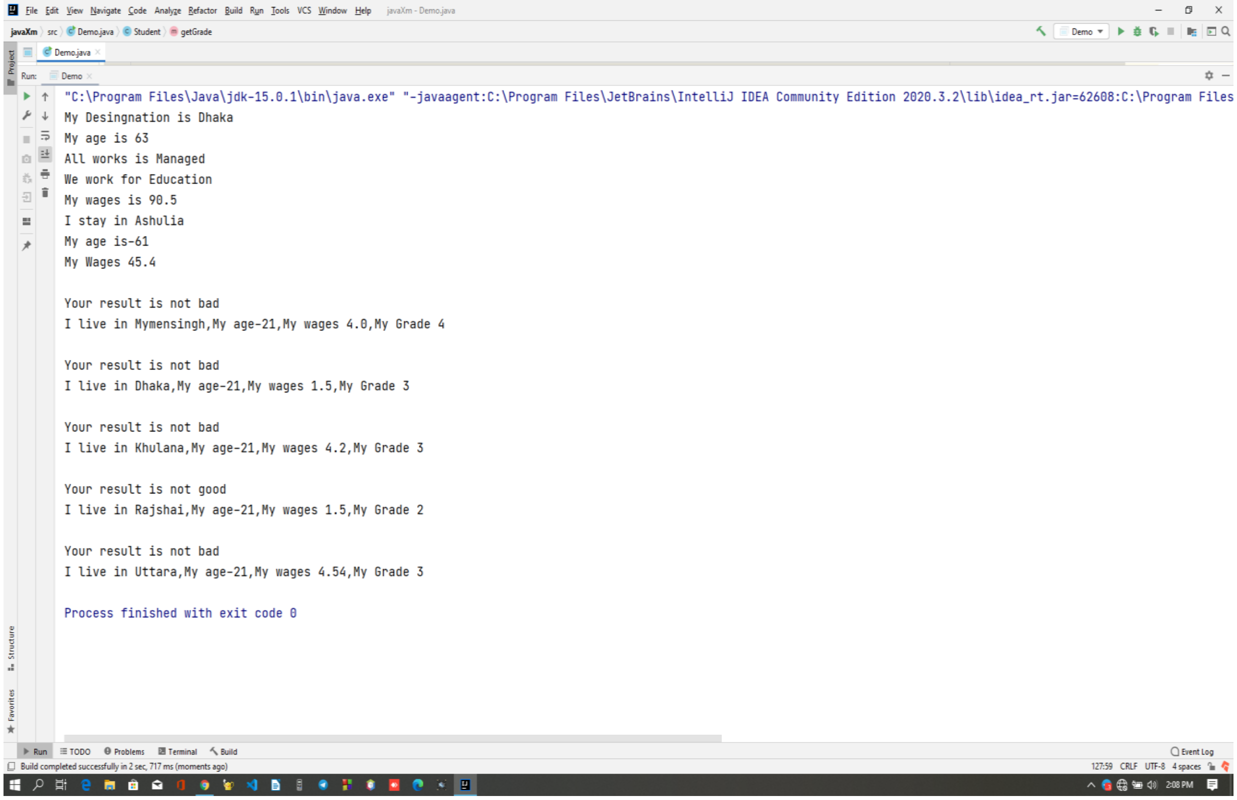
Ans to the question no-1_b

B/

```
abstract class Person {
    public String getDate_of_birth;
    public String Desingnation;
    public String date_of_birth;

    void setDesingnation(String desingnation) {
        Desingnation = desingnation;

    }


    public void setDate_of_birth(String date_of_birth) {
        this.date_of_birth = date_of_birth;
    }

    public String getDesingnation() {

        return Desingnation;
    }

    public Byte getAge() {
        Byte a = null;
        return a;

    }
}
```

```
interface EmployerProfessor {
    public void employPeople();


}

class HeadofDept extends Person implements EmployerProfessor {

    private double wage;
    public double getWage() {
        return wage;
    }

    public void setWage(double wage) {
        this.wage = wage;
    }

    public void manage() {
        System.out.println("All works is Managed");
    }

    @Override
    public void employPeople() {
        System.out.println("We work for Education");

    }

    void setDesingnation(String desingnation) {
        Desingnation = desingnation;

    }


    public void setDate_of_birth(String date_of_birth) {
        this.date_of_birth = date_of_birth;
    }

    public String getDesingnation() {
        return Desingnation;
```

```java
    }

    public Byte getAge() {
        int gap = 2021 - Integer.parseInt(date_of_birth);
        Byte a = (byte) gap;
        return a;
    }
}

class Profossor extends Person implements EmployerProfessor {
    private double wage;

    public double getWage() {
        return wage;
    }

    public void setWage(double wage) {
        this.wage = wage;
    }

    @Override
    public void employPeople() {
        System.out.println("I am profossor of this varsity");
    }

    void setDesingnation(String desingnation) {
        Desingnation = desingnation;

    }


    public void setDate_of_birth(String date_of_birth) {
        this.date_of_birth = date_of_birth;
    }

    public String getDesingnation() {
        return Desingnation;

    }
    public Byte getAge() {
        int gap = Integer.parseInt(date_of_birth) - 2021;
        Byte a = (byte) gap;
        return a;
    }
}

class Student extends Person {
    private Byte grade;
    private double wage;
    public double getWage() {
        return wage;
    }

    public void setWage(double wage) {
        this.wage = wage;
    }
    public Byte getGrade() {
        if(grade<3)System.out.println("\nYour result is not
good"); //uses of else if
        else System.out.println("\nYour result is not bad ");
        return grade;
    }

    public void setGrade(Byte grade) {
        this.grade = grade;
    }

    void setDesingnation(String desingnation) {
        Desingnation = desingnation;

    }


    public void setDate_of_birth(String date_of_birth) {
        this.date_of_birth = date_of_birth;
    }
    public String getDesingnation() {
        return Desingnation;

    }

    public Byte getAge() {
        int gap = Integer.parseInt(date_of_birth) - 2021;
        Byte a = (byte) gap;
        return a;
    }
}

public class Demo {
    public static void main(String[] args) {
        HeadofDept AkterSir = new HeadofDept();
        AkterSir.setDesingnation("Dhaka");
        System.out.println("My Desingnation is 
"+AkterSir.getDesingnation());
        AkterSir.setDate_of_birth("1958");
        System.out.println("My age is "+AkterSir.getAge());
        AkterSir.manage();
        AkterSir.employPeople();
        AkterSir.setWage(90.5);
        System.out.println("My wages is "+AkterSir.getWage());
        Profossor sir =new Profossor();
        sir.setDesingnation("Ashulia");
        System.out.println("I stay in "+sir.getDesingnation());
        sir.setDate_of_birth("1960");
        System.out.println("My age is" +sir.getAge());
        sir.setWage(45.4);
       System.out.println("My Wages "+sir.getWage());
        Student[] PC_I;
        PC_I = new Student[5];
        PC_I[0] = new Student();
        PC_I[1] = new Student();
        PC_I[2] = new Student();
        PC_I[3] = new Student();
        PC_I[4] = new Student();
        //uses of array

        PC_I[0].setDesingnation("Mymensingh");
        PC_I[0].setDate_of_birth("2000");
        PC_I[0].setGrade((byte) 4);
        PC_I[0].setWage(4);
        PC_I[1].setDesingnation("Dhaka");
        PC_I[1].setDate_of_birth("2000");
        PC_I[1].setGrade((byte) 3);
        PC_I[1].setWage(1.5);
        PC_I[2].setDesingnation("Khulana");
        PC_I[2].setDate_of_birth("2000");
        PC_I[2].setGrade((byte) 3);
        PC_I[2].setWage(4.2);
        PC_I[3].setDesingnation("Rajshai");
        PC_I[3].setDate_of_birth("2000");
        PC_I[3].setGrade((byte) 2);
        PC_I[3].setWage(1.5);
        PC_I[4].setDesingnation("Uttara");
        PC_I[4].setDate_of_birth("2000");
        PC_I[4].setGrade((byte) 3);
        PC_I[4].setWage(4.54);
       //uses of loop
        for (int i = 0; i < 5; i++) {
            System.out.println("I live in 
"+PC_I[i].getDesingnation()+","+"My age"+
PC_I[i].getAge()+","+"My wages "+PC_I[i].getWage()+","+"My 
Grade "+PC_I[i].getGrade());
```



```
"C:\Program Files\Java\jdk-15.0.1\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2020.3.2\lib\idea_rt.jar=62608:C:\Program Files
My Desingnation is Dhaka
My age is 63
All works is Managed
We work for Education
My wages is 90.5
I stay in Ashulia
My age is-61
My Wages 45.4

Your result is not bad
I live in Mymensingh,My age-21,My wages 4.0,My Grade 4

Your result is not bad
I live in Dhaka,My age-21,My wages 1.5,My Grade 3

Your result is not bad
I live in Khulana,My age-21,My wages 4.2,My Grade 3

Your result is not good
I live in Rajshai,My age-21,My wages 1.5,My Grade 2

Your result is not bad
I live in Uttara,My age-21,My wages 4.54,My Grade 3

Process finished with exit code 0
```

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Ans to the question no_2

Ans to the qu no-2
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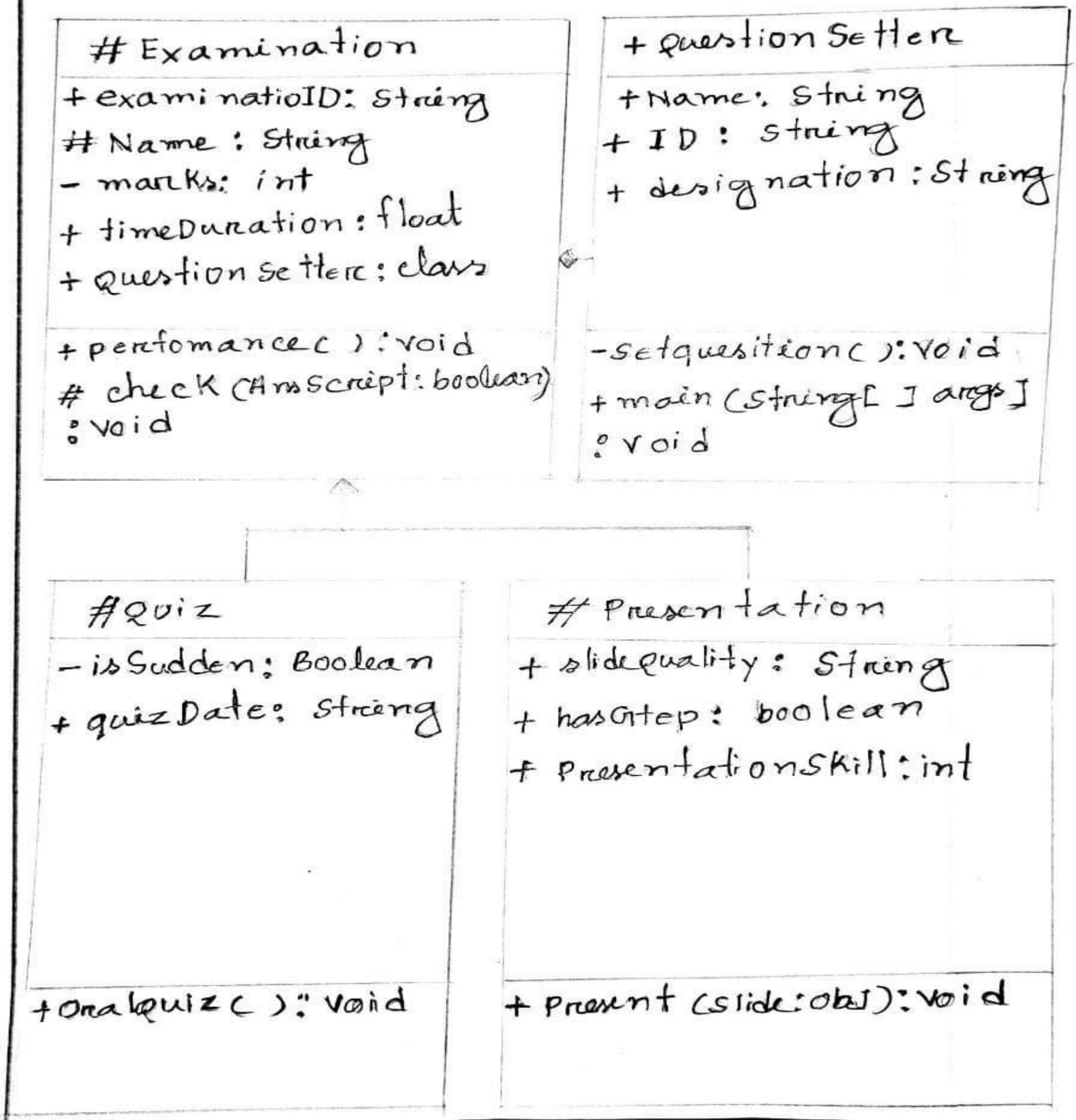
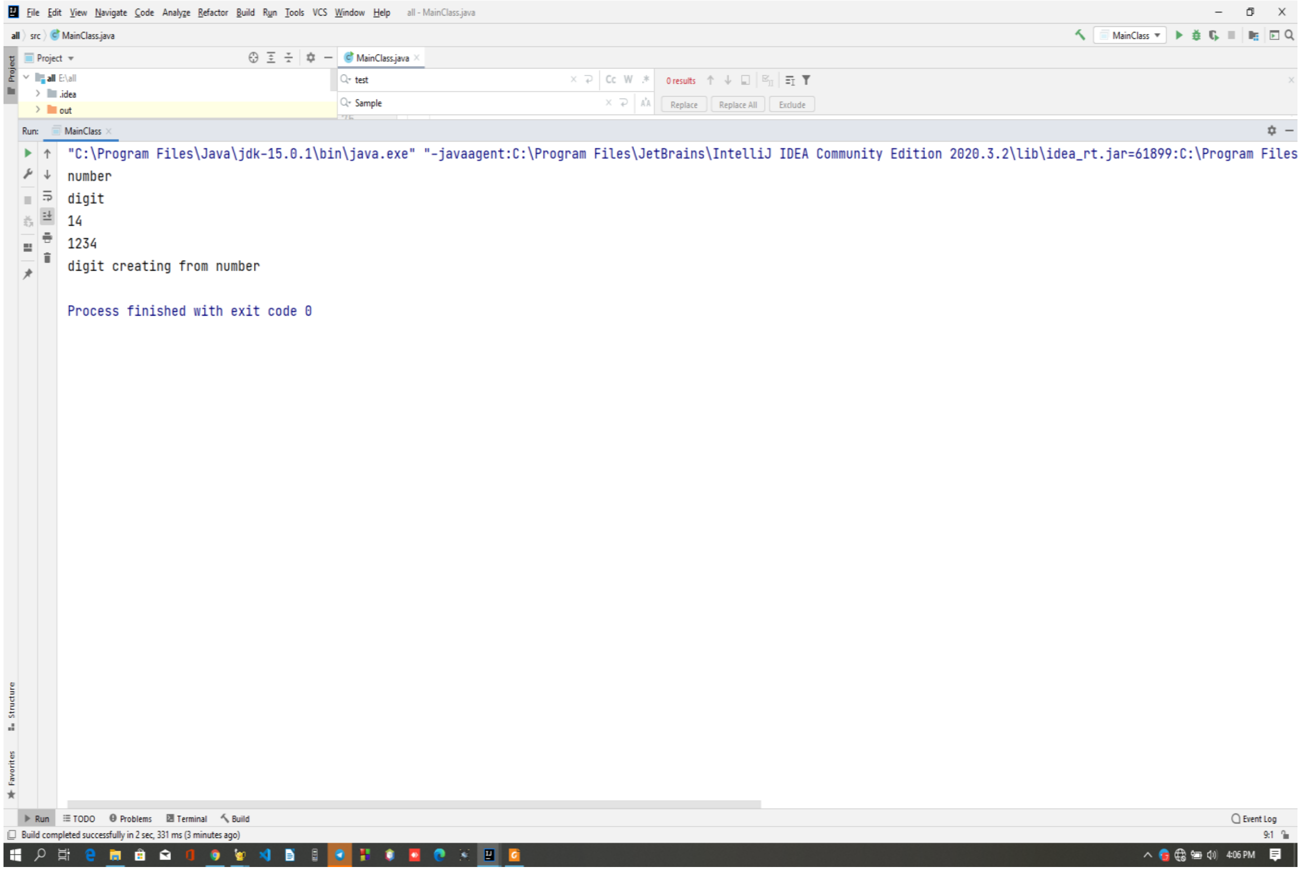


Ans to question no_3

```
class  number{
    public void PRINT() {
        System.out.println("number");
    }
}
                                      //inheritance
class digit extends number {
    @Override
    public void PRINT() {
        System.out.println("digit");
    }
    public int Multiply(int x, int y) {
        return x*y;
    }

}
                                      //Encaptulationsulation
example
```

```
class EncaptulationSample {

    private String charcter;

    public String getcharcter() {

        return charcter;

    }

    public void setcharcter(String newcharcter) {

        charcter = newcharcter;

    }

}

                                                 //abstraction

abstract class digitCreator {

    public abstract void go();

}

 class Prime_Number extends digitCreator{

    public void go(){

        System.out.println("\ndigit creating from number");

    }

}

 public class NumberGenaretor {

    public static void main(String[] args) {

        number OBJ=new number();
        OBJ.PRINT();

        digit numeric=new digit();

        numeric.PRINT();

        System.out.println(numeric.Multiply(7,2));

//polymorphism
        EncaptulationSample Encaptulation = new
EncaptulationSample();

        Encaptulation.setcharcter("7");

        System.out.print( Encaptulation.getcharcter() );

        digitCreator Sample = new Prime_Number();

        Sample.go();

    }

}
```

In this code, take number and it converts to digit and digit inherit from number. This value set by encapsulation that hide data from other. And abstraction is built by it is common functionality. And multiple inheritance creates polymorphism.



```
"C:\Program Files\Java\jdk-15.0.1\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2020.3.2\lib\idea_rt.jar=61899:C:\Program Files
number
digit
14
1234
digit creating from number

Process finished with exit code 0
```

Build completed successfully in 2 sec, 331 ms (3 minutes ago)