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Subject	OOP
Assignment	Lab Assignment Inheritance
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Submitted to:

Moderator	**Ms, Sajida Kalsoom**

Lab Task 01:

```
class person{
    //  name, address, phone number, and email address.
    protected String name;
    protected String address;
    protected String phone;
    protected String gmail;

    person(){

    }

    person(String name,String address, String phonenumber, String email){
    this.name=name;
     this.address=address;
     this.phone=phonenumber;
     this.gmail=email;
    }

    public void setname(String name){
        this.name=name;

    }
    public void setaddress(String address){
      this.address=address;
```

```
    }
    public void setphone(String phonenumber){
        this.phone=phonenumber;

    }
    public void setemail(String email){
        this.gmail=email;

    }

    public String getName(){
        return name;
    }
    public String getaddress(){
        return address;
    }
    public String getphone(){
        return phone;
    }
    public String getemail(){
        return gmail;
    }

    public String toString(){

        return "name= " + name + " , phone= " + phone + " , address= "+ address +" , email= " +
gmail;

    }
```

```
}
class student extends person{

    protected String status;

    student(){


    }

    student(String name,String address, String phonenumber, String email,String status){
        super( name, address, phonenumber,  email);
        this.status=status;

    }

    public void setStatus(String status){

        this.status=status;

    }

    public String getStatus(){

        return status;

    }
```

```
    public String toString(){

        return super.toString() + " , status = "+status;

    }


}

class employee extends person{

    // An employee has an office, salary, and date hired. Use the Date class to create an object for date hired.
   protected String office;
   protected double salary;
   protected Date dateHired;

   employee(){

   }

   employee(String name,String address, String phonenumber, String email,String off, double salary,Date datehired){

    super(name,address, phonenumber, email);
```

```
 this.office=off;
 this.salary=salary;
 this.dateHired=datehired;
}

public void setOffice(String office){
 this.office=office;
}
public void setsalary(double salary){
 this.salary=salary;

}
public void setDate(Date Date){
 this.dateHired=Date;
}

public String getOffice(){
 return office;
}

public double getSalary(){
 return salary;
}

public Date getDate(){
 return dateHired;
}
```

```
   public String toString(){

    return super.toString()+"office= "+ office + " , salary= "+salary +" , Date = "+dateHired;

   }

}
class faculty extends employee{

    protected String Rank;
     protected double officehours;

     faculty(){

     }
     faculty(String name,String address, String phonenumber, String email,String off, double
salary,Date datehired,String Rank,double hrs){

        super(name,address, phonenumber, email, off,  salary,datehired);
        this.Rank=Rank;
        this.officehours=hrs;
     }

     public void setRank(String Rank){

        this.Rank=Rank;
     }

     public void setOfficeHours(double hrs){
```

```
        this.officehours=hrs;

    }

    public String getRank(){
        return Rank;
    }
    public double getOfficeHours(){
        return officehours;
    }

    public String toString(){
        return super.toString()+ " Rank= "+Rank+", office Hourse= "+officehours;
    }

}

class staff extends employee{
    protected String title;
    staff(){

    }

    staff(String name,String address, String phonenumber, String email,String off, double
salary,Date datehired,String title){

        super( name, address,  phonenumber, email, off,  salary, datehired);
```

```
        this.title=title;

    }

    public void setTitle(String title){

        this.title=title;
    }

    public String getTitle(){

        return title;

    }



}
class Date{
   protected int day;
   protected int month;
   protected int year;
    Date(){

    }
    Date(int d,int m,int y){
        this.day=d;
        this.month=m;
        this.year=y;
```

```
}
public void setday(int d){
   this.day=d;
}
public void setmonth(int m){
   this.month=m;
}
public void setyear(int y){
   this.year=y;
}

public int getday(){
   return day;
}
public int getmonth(){
   return month;
}
public int getyear(){
   return year;
}

public String toString(){

   return day + "/" + month + "/" + year;

}
```

```
}

public class LabTask1{
   public static void main(String[] args) {

       Date D1=new Date(12,9,2020);

       student S1=new student("Habib","house no 59",
"00923485149398","idrhabib5@gmail.com","enrolled");
       System.out.println(S1.toString());

       employee e1=new employee("Habib","House no
59","03485148387","idrhabib@gmail.com","FGEHA",12000,D1);

       System.out.println(e1.toString());

       faculty f1=new faculty("Ali","House no 59",
"03485148387","idrhabib5@gmail.com","FGEHA",12999,D1,"Inspector",1200);
       System.out.println(f1.toString());


   }

}
```

Lab Task 02:

```
class publication{
    protected String title;
    protected double price;

    publication(){

    };

    publication(String t, double p){
        this.title=t;
        this.price=p;
    }

    public void setTitle(String t){
        this.title=t;
    }

    public void setPrice(double p){
        this.price=p;
    }

    public String getTitle(){
        return title;
    }
```

```
    public double getPrice(){
        return price;
    }

    public String toString(){
        return "Title is:"+ title +", and Price is: "+price;
    }




}
class book extends publication{
    protected int pageCount;

    book(){

    }

    book(String t, double p,int count){
        super(t,p);
        this.pageCount=count;
    }

    public void setpageCount(int count){
        this.pageCount=count;
    }
```

```
    public int getPageCount(){
        return pageCount;

    }

    public String toString(){

        return super.toString()+", page count: "+pageCount;
    }



}

class tape extends publication{
    protected int playingmin;

    tape(){};

    tape(String t, double p,int min){

        super(t,p);
        this.playingmin=min;

    }

    public void setMin(int min){
        this.playingmin=min;
```

```
    }

    public int getMin(){
        return playingmin;
    }

    public String toString(){

        return super.toString()+", Playing minutes are: "+playingmin;
    }

}



public class LabTask2 {
    public static void main(String[] args) {

        publication p1=new publication("alie",1200);
        System.out.println(p1.toString());
        book b1=new book("ale",1200,3);
        System.out.println(b1.toString());
        tape t1=new tape("alie",1200,34);
        System.out.println(t1.toString());

    }

}
```

Lab Task 03:

```
class Computer{
//      contains data members of wordsize(in bits), memorysize (in megabytes),
// storagesize (in megabytes) and speed (in megahertz)

protected int wordSize;
protected int memorySize;
protected int storageSize;
protected int megahertz;

Computer(){

}

Computer(int w,int m,int s,int mega){
   this.wordSize=w;
   this.memorySize=m;
   this.storageSize=s;
   this.megahertz=mega;
}

public void setWordsize(int W){
   this.wordSize=W;

}
public void setmemorySize(int M){
   this.memorySize=M;
```

```
}
public void setStorageSize(int S){
   this.storageSize=S;

}
public void setmegaHertz(int M){
   this.megahertz=M;

}

public int getWordSize(){
   return wordSize;
}

public int getmemorySize(){
   return memorySize;
}

public int getStorageSize(){
   return storageSize;
}

public int getmegaHerz(){
   return megahertz;
}

public String toString(){
```

```
   return "WordSize: "+wordSize+ "bits" +", memory Size: "+memorySize+" in mbs"+" ,Storage Size:  "+storageSize+ " and mega hertz:  "+megahertz;
}


}

class Laptop  extends Computer{
   //  specifies the object's length, width, height, and weight.

  protected double length;
  protected double height;
  protected double weight;

  Laptop(){}

  Laptop(int w,int m,int s,int mega,double length,double height,double weight){

   super(w,m,s,mega);

   this.length=length;
   this.height=height;
   this.weight=weight;

  }

  public void setLength(int l){
   this.length=l;
```

```
  }
  public void setheight(int h){
   this.height=h;
  }
  public void setweight(int w){
   this.weight=w;
  }
public double getHeight(){
   return height;
}
public double getWeight(){
   return weight;
}
public double getLength(){
   return length;
}

public String toString(){

   return super.toString()+" , length is: "+length+" , Height is "+height+" , weight is:"+weight;
}



}

public class LabTask3 {
   public static void main(String[] args) {
       Computer C1=new Computer(12,34,55,44);
```

```
        System.out.println(C1.toString());

        Laptop L1=new Laptop(12,34,56,77,88,44,55);
        System.out.println(L1.toString());

    }

}
```