Previous MID – Question & Solve

Spring -2K18

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Fall – 2K17

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Spring 2K17

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Fall – 2K16

PC-C

Daffodil International University

Department of Computer Science and Engineering

Faculty of Science and Information Technology

Midterm Examination SPRING 2018

Course Code: CSE214 Course Title: Object Oriented Programming

Level : 2 Term: 1 Section: ALL

Instructor: ALL

Full Marks: 25

Time: 1 hr 30 minutes

3 X 2 = 6

PART-A: Analytical (write option and reasons in the answer booklet)

1. Which of the following statements is correct?

a) Public method is accessible to all other classes in the hierarchy

b) Public method is accessible only to subclasses of its parent class

c) Public method can only be called by object of its class.

d) Public method can be accessed by calling object of the public class.

2. The polymorphism can be characterized by the phrase

a. One interface, multiple methods b. Multiple interfaces,one method c. One interface,one method

d. None of the above

3. Which of these statement is incorrect?

a) Every class must contain a main() method.

b) Applets do not require a main() method at all.

c) There can be only one main() method in a program.

d) main() method must be made public.

3 X 3 = 9

PART-B: Code Analysis

1. What is the output of this program? Give reasoń.

```
class main_class {
    public static void
  main(String args[])
  {
                 int x = 9;
                 if (x == 9) {
                       int x = 8;

  System.out.println(x);
                 }
           }
      }
```

2. Which of these array declarations and initializations are legal? Select the two correct answers.

a. int arr[4] = new int[4];

b. int[4] arr = new int[4];

c. int arr[] = new int[4];

d. int arr[] = new int[4][4];

e. int[] arr = new int[4];

3. What is the output for the below code ? Give reason.

```
1. public class Test {
2. public static void main(String[] args){
3. byte b = 6;
4. b+=8;
5. System.out.println(b);
6. b = b+7;
7. System.out.println(b);
8. }
9. }
```

Options are

A.14 21

B.14 13

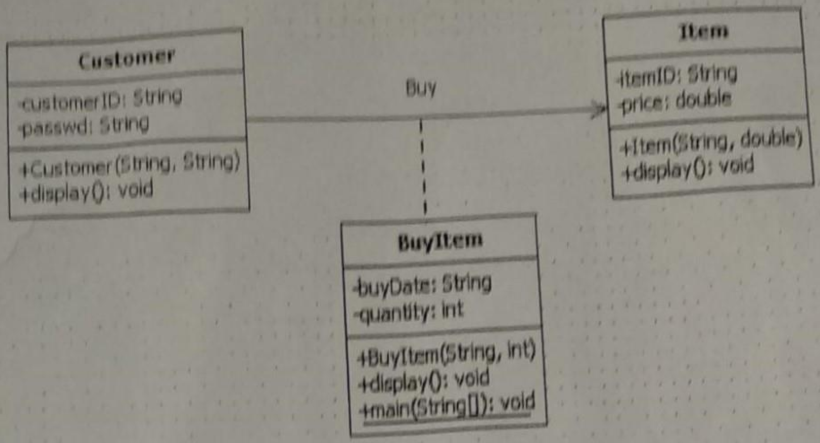
C.Compilation fails with an error at line 6

D.Compilation fails with an error at line 4

12

PART-B: OOP Implementation using Java

Consider the following UML model:



- = private ; + = public ; # = protected ; Italic = abstract

Implement using Java and create necessary objects in the main() method and show their respective operations.

-------------------- Good Luck ----------------------

Spring 2018

Part A

(1) a) Public method is accessible ----

(2) a.

(3) a.

Part B

(1) Here the answer will 8 but here used int in two Place. If there is only X=8 then output will Print 8. But here is int x=8. So, the output will show ERROR. Its Compilation error.

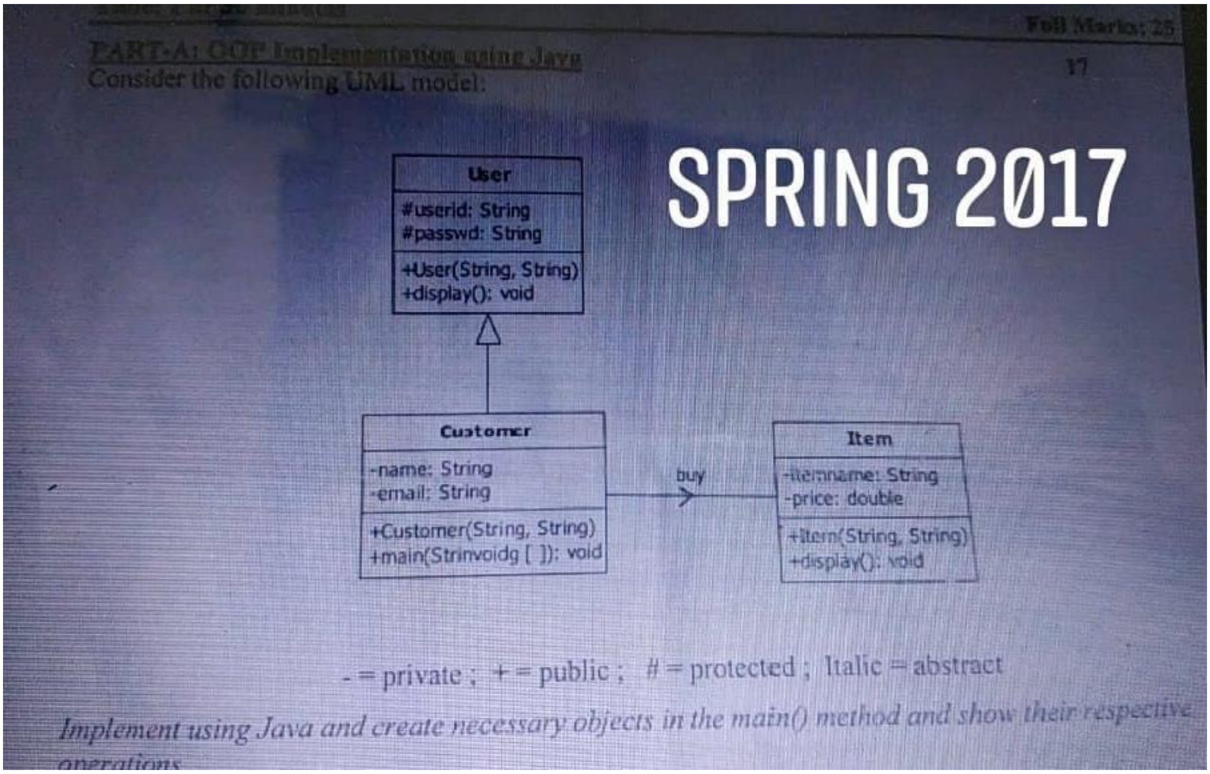
(2) (c) int arr[]=new int [4];
(e) int [] arr =new int [4];

(3). (e) Compilation fails with an error at line 6.

Here the given byte is b=6. But in the six number line b=b+7. Line is not correct. It's. Compilation fail,

Part - C

```
package spring18;

public class Customer {
    private String customerId;
    private String password;
    public Customer(String customerId, String password){
        //super(itemId,price);

        this.customerId = customerId;
        this.password = password;
    } public void
    display(){

        System.out.println("Customer Id: "+customerId);
        System.out.println("Customer PAssword: "+password);
    }
}

  package spring18;

public class Item {

    private String itemId;
    private double price;

    public Item(String itemId, double price) {
        this.itemId = itemId;
        this.price = price;
    } public void
    display() {
        System.out.println(itemId);
        System.out.println(price);
    }
}
package spring18;

public class BuyItem {
        private String buyDate;
    private int quantity; public BuyItem(String

    buyDate, int quantity){

        this.buyDate = buyDate;
        this.quantity = quantity;
    }

   public  void display() {
        System.out.println("Buy Date:"+buyDate);
        System.out.println("Quantity:"+quantity);
    } public static void main(String[] args) {
     Customer object1 = new Customer(“Hrithik","181-15-
     1"); object1.display();
     Item object2 = new Item(“Dell5000",71000.50);
     object2.display();
     BuyItem object3 = new BuyItem(“3/3/19",20000);
     object3.display();
    }
}
```



Full Marks: 25

PART-A: OOP Implementation using Java

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Consider the following UML model:

SPRING 2017

User

#userid: String
#passwd: String

+User(String, String)
+display(): void

Customer

-name: String
-email: String

+Customer(String, String)
+main(Strinvoidg [ ]): void

buy

Item

-itemname: String
-price: double

+Item(String, String)
+display(): void

- = private ; + = public ; # = protected ; Italic = abstract

Implement using Java and create necessary objects in the main() method and show their respective operations

```
package spring17;

public class User {

   protected String userId;
   protected String password;
   public User (String userId,String password){
      this.userId=userId;
      this.password=password;

   } public void
display (){
   System.out.println("User ID : "+userId);
   System.out.println("User Password : "+password);
}
}
package spring17;

public class Item {
    private String itemName;
    private double price;
public Item (String itemName,double price){
    this.itemName=itemName;
    this.price=price;
}
public void display (){
    System.out.println("Item Name : "+itemName);
    System.out.println("Price : "+price);
}
}

package spring17;
public class Coustomer extends User {

    private String name;
    private String email;

    public Coustomer (String name,String email){
        super (" "," ");
        this.name=name;
        this.email=email;
    }

    public void display (){
        System.out.println("Name : "+name);
        System.out.println("Email Address : "+email);
    }
        public static void main(String[] args) { User
                object1 = new User("riad","1234");
                object1.display();
                Item object2 = new Item("acer laptop",15000.50);
                object2.display();
        Coustomer object3 = new Coustomer("Riad Rahman","riadrahman399@gmail.com");
        object3.display();

        //System.out.println(object3.name);
        //System.out.println(object3.email);
    }

}
```

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PART-A: Analytical (write option and reasons in the answer booklet)

3 X 2 = 6

1. Which of these is used as default for a member of a class if no access specifier is used for it?

a) private b) public c) public, within its own package d) protected

2. The polymorphism can be characterized by the phrase

a. One interface, multiple methods b. Multiple interfaces,one method c. One interface,one method d. None of the above

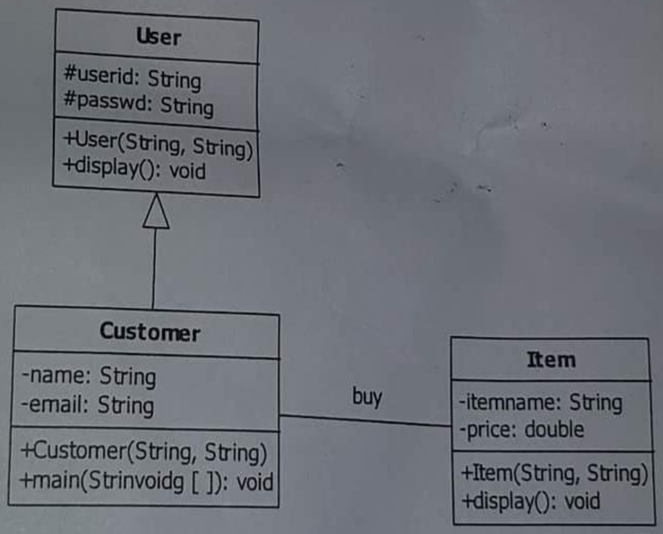
3. Which of the following is not the characteristic of constructor?

a. They should be declared in the public section. b. They do not have return type. c. They can not be inherited. d. They can be virtual.

PART-B: OOP Implementation using Java

12

Consider the following UML model:



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Implement using Java and create necessary objects in the main() method and show their respective operations.

PART-C: OO Modeling using UML

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Consider the following business requirements:

Toyota is a Car. Every car has model and company of type string. Toyota has price of type double, productionYear and registrationNumber of type string. Toyota also has Engine and DashBoard. Engine has capacity of type double. DashBaord has size of type double. Car provides drive and stop as an abstract service or method of type void. Toyota also provides changeFuel and checkBattery service or method of type void. ***N.B. You are allowed for necessary assumptions***

Draw the UML class diagram based on the above requirement scenario.

------------------- Good Luck -------------------

Fall 2017

HRITHIK

Part A

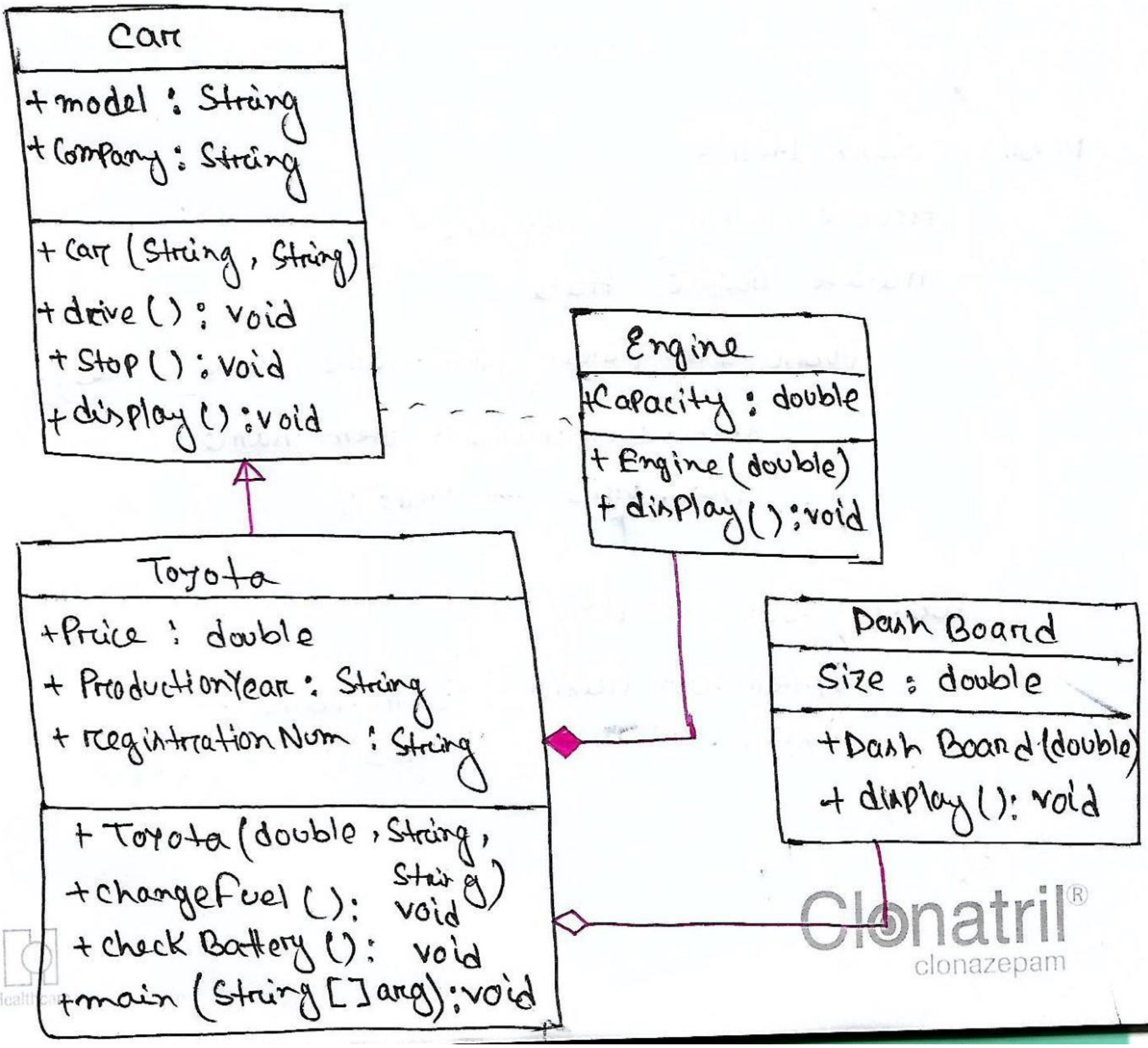
① a.

→ when we Pass an argoment by call-by-value a copy of argument is made into the formal Parameter of the subroutine and changes made on Parameters of subroutine have no effect on original argument they remain the same.

② a.

③ d.

Part : C ☺



PART - B

```
package fall17; public class

Customer extends User{

    private String name; private String email;

   static Item buy; public Customer(String

   name, String email) {

       super("","");
          this.name = name;
          this.email = email;
   } public void
display(){

       System.out.println(name);
       System.out.println(email);
   } public static void main(String[] args)
   {

       Customer c = new       Customer(“Hrithik",“hrithikmojudar1@gmail.com");
        System.out.println(c.name);
        System.out.println(c.email);
       buy = new Item("ABC",33.5);
       buy.display();

       User us = new User(“Ripto","12345");
       us.display();
   }

}
```

```
package fall17;

public class Item {
    private String itemname;
    private double price;

    public Item(String itemname, double price) {
        this.itemname = itemname;
        this.price = price;
    }

    public void display() {
        System.out.println(itemname);
        System.out.println(price);
    }
}
```

```
package fall17;

public class User {
     protected String userid;
    protected String passwd;

    public User(String userid,String passwd){
        this.userid=userid;
        this.passwd=passwd;
    } public void
    display(){
        System.out.println(userid);
        System.out.println(passwd);
}
}
```

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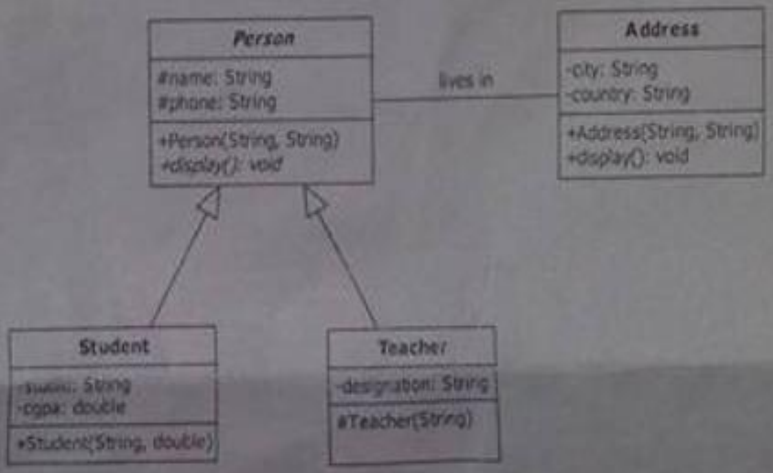
PART-A: OOP Implementation using Java 17

Consider the following UML model:



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Implement using Java and create necessary objects in the main() method and show their respective operations.

PART-B: OO Modeling using UML 8

Consider the following business requirements:

Apple is a Fruit. Every fruit has color of type string and weight of type double. Apple has price of type double, productionYear of type integer and quantity of type integer. Busket consist of Apple and busket has capacity of type double. Apple also has Sticker which is made of Logo and Card. Apple provides eat and clean service or method of type void. Fruit also provides buyFruit and checkFruit service or method of type void

N.B. You are allowed for necessary assumptions

Draw the UML class diagram based on the above requirement scenario.

-------------------- Good Luck --------------------

```
//Person class

public abstract class Person {
    protected    String    name;
    protected String phone;

    public Person(String name, String phone){
        this.name = name;
        this.phone = phone;
    }

    abstract void display();
}

//Student Class

public class Student extends Person
    { private String stdid; private
    double cgpa;

    public Student(String name, String phone, String stdid, double
cgpa){
        super(name,phone);
        this.stdid = stdid;
        this.cgpa = cgpa;
    }
    public void display(){
        System.out.println("Student Id: "+stdid);
        System.out.println("Student's Name: "+name);
        System.out.println("Phone: "+phone);
        System.out.println("CGPA: "+cgpa);
    }
```

```
 }
//Teacher class

public class Teacher extends Person {
    private String designation;

    protected Teacher(String name, String phone, String
        designation){ super(name,phone);
        this.designation = designation;
    }
    public void display(){
        System.out.println("Teacher's Name: "+name);
        System.out.println("Phone: "+phone);
        System.out.println("Designation: "+designation);
    }

}

//Address Class

public class Address {
    private String city;
    private String country;

    public Address(String city, String
        country){ this.city = city; this.country =
        country;
    }

    void display(){
        System.out.println("City: "+city);
        System.out.println("Country: "+country);
    }
```

```
public static void main(String[] args) {
        Student p1 = new Student("Supto Das", "01793344213",
"11126", 3.50);
        Address p = new Address("Dhaka",
        "Bangladesh"); p1.display(); p.display();

       Teacher t = new Teacher("R.K. Das", "01908070908",
"Lecturer");
        Address t1 = new Address("Dhaka",
        "Bangladesh"); t.display(); t1.display();
    }
}
```

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