LAB TEST SET A

Name : Matric No:

S/G : Email address:

Question 1 (10 Marks)

Write a java application named CircleCalculator.java. There are one constructor and three methods need to be write in the application. You are required to apply class field and methods in class Math under package java.lang. Mark will be deducted if you are not applied the Math's class field and methods. Test your CircleCalculator.java with CircleMainApp.java. The expected output as shown below.

(10 Marks)

Diameter of Circle: [2r]

Area of Circle: [πr^2]

Circumference of Circle:[$2\pi r$]

Area of Sector: **$\frac{1}{2} \times \theta \times r2$ (when θ is in radians)**

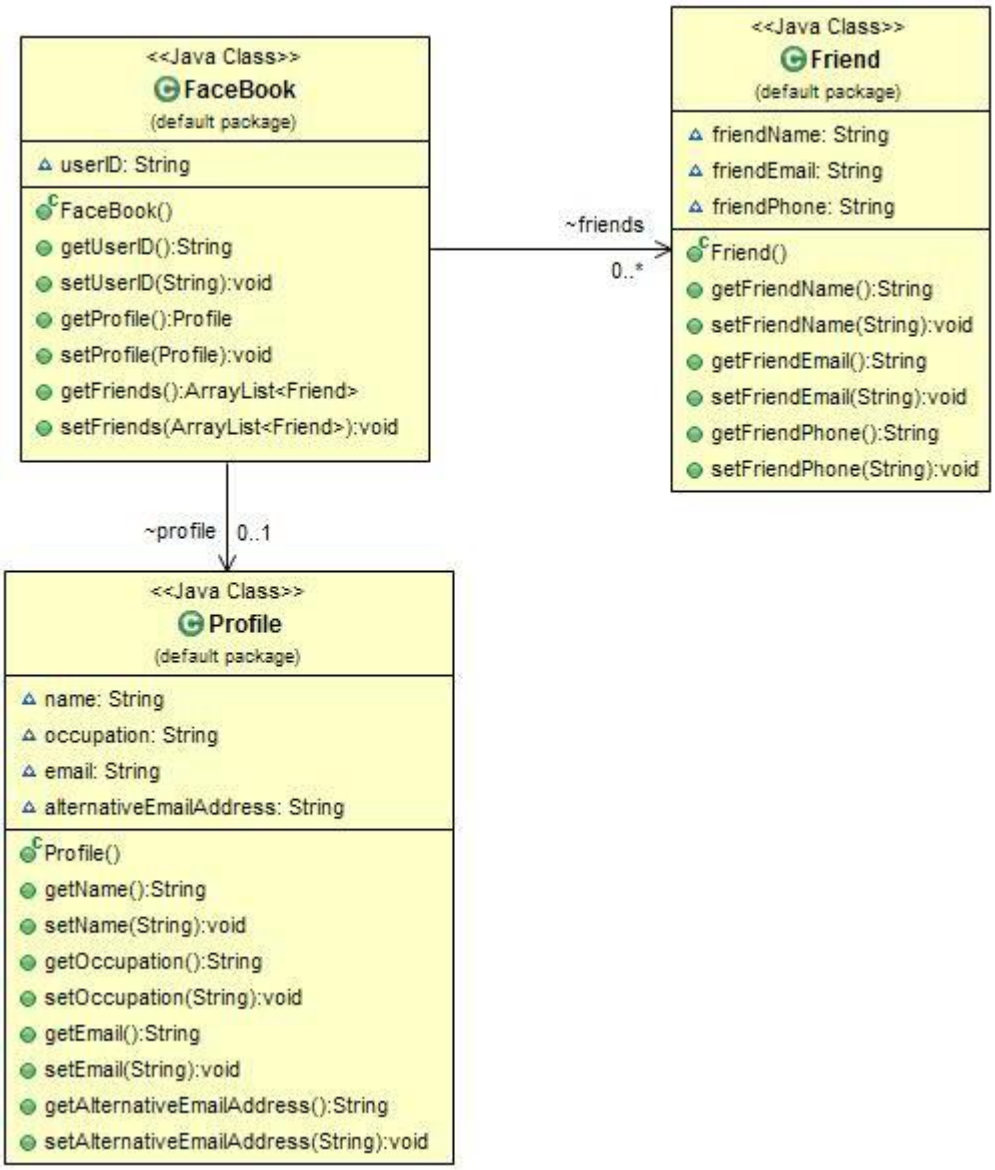
```
public class CircleMainApp {
	public static void main(String[] args) {
		CircleCalculator circle = new CircleCalculator(2);
		System.out.println("Diameter : "+circle.calcDiameterOfCircle());
		System.out.println("Area :"+circle.calcAreaOfCircle());
		System.out.println("Circumference
		:"+circle.calcCircumferenceOfCircle());
		System.out.println("Area of Sector"+circle.calcAreaOfSector(30));
	}
}
```

Expected Result is:

```
Diameter : 4.0
Area :12.566370614359172
Circumference :12.566370614359172
Area of Sector1.0471975511965976
```

Question 2 (10 Marks)

Write java implementation of the classes below. Then, write and run the MyFaceBookMain.java.



MyFaceBookMain.java

```
import java.util.ArrayList;

public class MyFaceBookMain {

	public static void main(String[] args) {
		// TODO Auto-generated method stub
		FaceBook fb = new FaceBook();
		fb.setUserID("sanusi123");

		Profile profile = new Profile();
		profile.setName("Sanusi Azmi");
		profile.setOccupation("Lecturer");
		profile.setEmail("sanusi@utem.edu.my");
		profile.setAlternativeEmailAddress("sanusiazmi@gmail.com");
		fb.setProfile(profile);

		ArrayList<Friend> friends = new ArrayList<Friend>();

		Friend ali = new Friend();
		ali.setFriendName("Ali bin Abu");
		ali.setFriendEmail("aliabu@gmail.com");
		ali.setFriendPhone("0123456789");

		Friend chang = new Friend();
		chang.setFriendName("Chang Gee Guan");
		chang.setFriendEmail("changgeeguan@gmail.com");
		chang.setFriendPhone("012987654321");

		friends.add(ali);
		friends.add(chang);
		fb.setFriends(friends);

		Profile sanusi_profile = fb.getProfile();
		System.out.println(sanusi_profile.getName()+" :
"+sanusi_profile.getEmail());

		for(Friend f : fb.getFriends())
			System.out.println(f.getFriendName()+" \t: "+f.getFriendEmail()+"
\t: "+f.getFriendPhone());
	}
}
```

Expected Result:

```
Sanusi Azmi : sanusi@utem.edu.my
Ali bin Abu  : aliabu@gmail.com  : 0123456789
Chang Gee Guan      : changgeeguan@gmail.com   : 012987654321
```

LAB TEST SET B

Name :

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S/G :

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Question 1 (10 Marks)

Write a java application that consist the method in the UML given below. The description of the constructor and methods is in Table 1.0. Then,write `MyMainMileageClaim.java` to get the output.

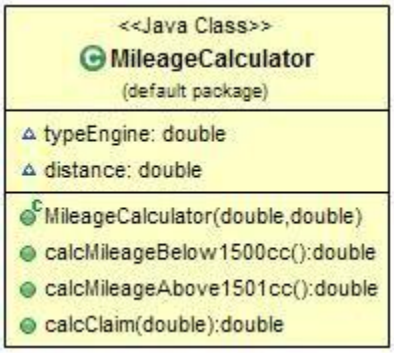


Table 1.0 Description of Methods

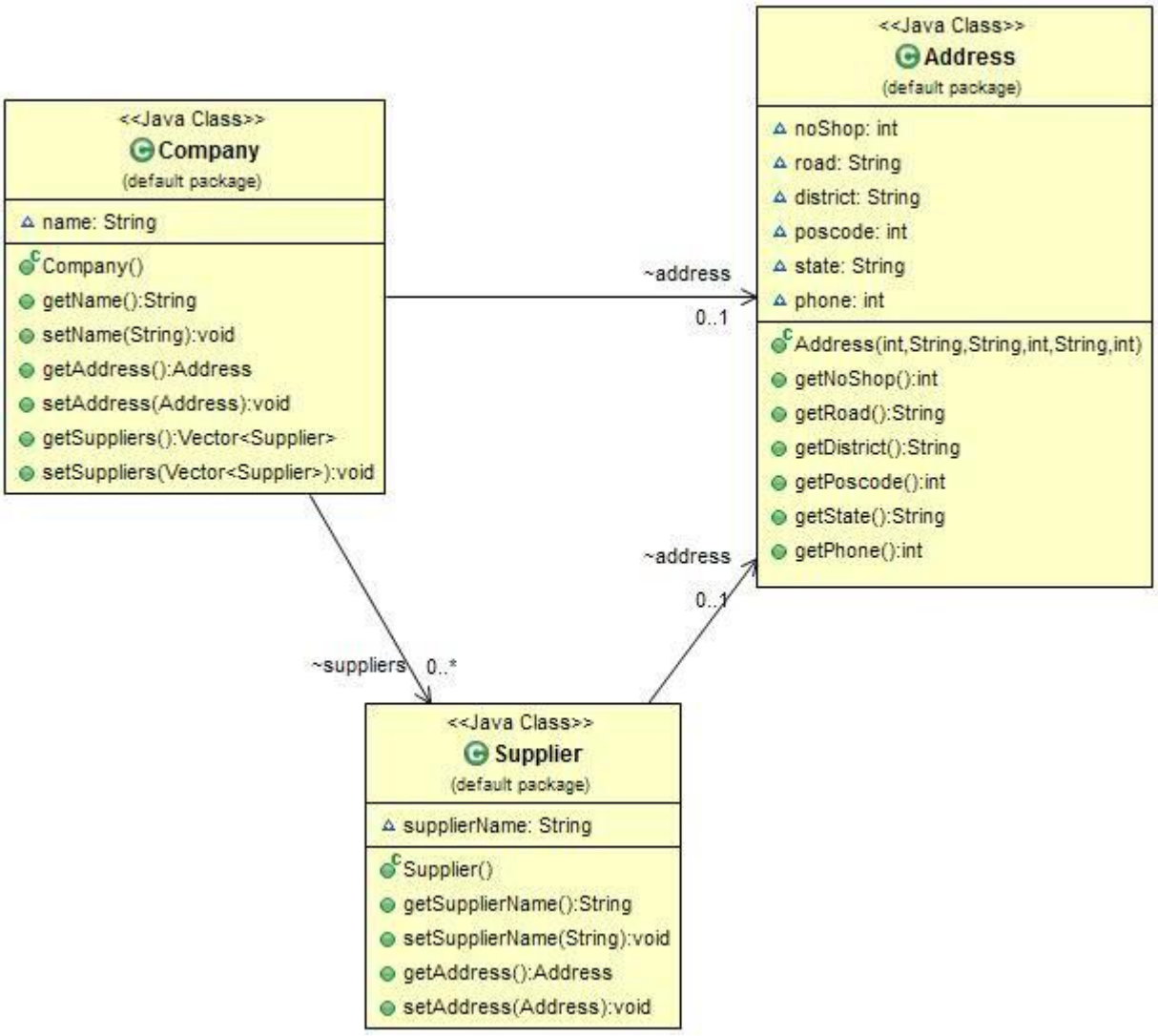
Constructor/Methods	
MileageCalculator	To assign typeEngine and distance to class's field
calcMileageBelow1500cc	Check the distance. If the distance is less or equal 500km, the rate is 0.60. Else the rate is 0.65. The method will call method calcClaim()
calcMileageAbove1500cc	Check the distance. If the distance is less or equal 500km, the rate is 0.80. Else the rate is 0.85. The method will call method calcClaim()

Expected Output

```
Total claim is RM :300.0
Total claim is RM :595.0
```

Question 2 (10 Marks)

Based on the UML classes given below, write the java implementation classes. Then, write the MyCompanyMain.java source code given in Table below.



MyCompanyMain.java

```
import java.util.Vector;

public class MyCompanyMain {
	public static void main(String[] args) {
		Company company = new Company();
		company.setName("ABC sdn bhd");
		Address address = new Address(123, "Jalan UTeM", "Durian Tunggal",
		76100, "Melaka", 06123456);
		company.setAddress(address);

		Vector<Supplier> suppliers = new Vector<Supplier>();

		Supplier supplierBuku = new Supplier();
		supplierBuku.setSupplierName("Syarikat Buku Sdn Bhd");
		Address supplierBukuAddress = new Address(3, "Jalan Munsyi", "Ayer
		Keroh", 75400, "Melaka", 06123123);
		supplierBuku.setAddress(supplierBukuAddress);

		Supplier supplierComputer = new Supplier();
		supplierComputer.setSupplierName("Syarikat Computer Sdn Bhd");
		Address supplierComputerAddress = new Address(3, "Jalan Bukit Beruang",
		"Ayer Keroh", 75400, "Melaka", 06111223);
		supplierComputer.setAddress(supplierComputerAddress);

		suppliers.add(supplierBuku);
		suppliers.add(supplierComputer);

		company.setSuppliers(suppliers);

		Address comp_Address = company.getAddress();
		System.out.println(comp_Address.getNoShop()+" :
		"+comp_Address.getRoad()+" : "+comp_Address.getDistrict()+" :
		"+comp_Address.getPhone());

		for(Supplier s : company.getSuppliers())
		{
			System.out.print(s.getSupplierName()+" \t: ");
			Address supp_Address = s.getAddress();

			System.out.println(supp_Address.getNoShop()+" :
			"+supp_Address.getRoad()+" : "+supp_Address.getDistrict()+" :
			"+supp_Address.getPhone());
		}
	}
}
```

Expected Output:

```
123 : Jalan UTeM : Durian Tunggal : 1615662
```

Syarikat Buku Sdn Bhd : 3 : Jalan Munsyi : Ayer Keroh : 1615443
Syarikat Computer Sdn Bhd : 3 : Jalan Bukit Berua