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Course Name: C.S.E. (IoT CS BC)

Course code: CSL304

Year: S.E.

Semester: 3

Roll No.: 17

Experiment Evaluation Sheet

Experiment No.: 5

Experiment Name:
Program on Packages

Sr No.	Evaluation Criteria	Marks (Out of 9)	Performance Date	Correction Date and Signature of Instructor
1	Experiment Performance			
2	Journal Performance			
3	Punctuality			
Total				

Aim : Program on Packages

Software required : Java, Javac.

Theory :

Packages In Java :-

Package in Java is a mechanism to encapsulate a group of classes, sub packages and interfaces.

Packages are used for:

- Preventing naming conflicts. For example there can be two classes with name Employee in two packages, college.staff.cse.Employee and college.staff.ee.Employee
- Making searching/locating and usage of classes, interfaces, enumerations and annotations easier
- Providing controlled access: protected and default have package level access control. A protected member is accessible by classes in the same package and its subclasses. A default member (without any access specifier) is accessible by classes in the same package only.
- Packages can be considered as data encapsulation (or data-hiding).

All we need to do is put related classes into packages. After that, we can simply write an import class from existing packages and use it in our program. A package is a container of a group of related classes where some of the classes are accessible are exposed and others are kept for internal purpose. We can reuse existing classes from the packages as many time as we need it in our program.

How packages work?

Package names and directory structure are closely related. For example if a package name is college.staff.cse, then there are three directories, college, staff and cse such that cse is present in staff and staff is present inside college. Also, the directory college is accessible through CLASSPATH variable, i.e., path of parent directory of college is present in CLASSPATH. The idea is to make sure that classes are easy to locate.

Package naming conventions : Packages are named in reverse order of domain names, i.e., org.geeksforgeeks.practice. For example, in a college, the recommended convention is college.tech.cse, college.tech.ee, college.art.history, etc.

Code 5.a :

```
package info;
class Student {
    String name;
    int rollno;
    String address;
    Student(String n, int r, String a) {
        name = n;
        rollno = r;
        address = a;
    }
    public void show(){
        System.out.println("\nName : " + name + "\nRoll No. : " + rollno + "\nAddress : " + address);
    }
}
class Record {
    public static void main(String[] args) {
        Student s1 = new Student("ABC", 23, "Sector 4");
        s1.show();
    }
}
```

Output 5.a :

```
● chetan_i_007@HP-15-BS661TX:/media/chetan_i_007/Ventoy/College/OOPs/Exp05$ java info.Record  
Name : ABC  
Roll No. : 23  
Address : Sector 4
```

Conclusion :

With this experiment we learn how to implement packages in java programming language.