

1. Write lambda syntax for the following functional interface:

```
@FunctionalInterface
public interface Message {
    public void send(String str);
}
```

2. Complete the questions using stream API:
 - a. Create a class student as follows:

```
public class Student {
    private int id;
    private String firstName;
    private String lastName;
    private int age;
    private String gender;
    private String departmentName;
    private int joinedYear;
    private String city;
    private int rank;
    // constructor, getters/setters/tostring
}
```

- b. Sample data

```
List<Student> list = Arrays.asList(
    new Student(1, "Rohit", "Mall", 30, "Male", "Mechanical Engineering", 2015, "Mumbai", 122),
    new Student(2, "Pulkit", "Singh", 56, "Male", "Computer Engineering", 2018, "Delhi", 67),
    new Student(3, "Ankit", "Patil", 25, "Female", "Mechanical Engineering", 2019, "Kerala", 164),
    new Student(4, "Satish Ray", "Malaghan", 31, "Male", "Mechanical Engineering", 2014, "Kerala", 26),
    new Student(5, "Roshan", "Mukd", 23, "Male", "Biotech Engineering", 2022, "Mumbai", 12),
    new Student(6, "Chetan", "Star", 24, "Male", "Mechanical Engineering", 2023, "Karnataka", 90),
    new Student(7, "Arun", "Vittal", 26, "Male", "Electronics Engineering", 2014, "Karnataka", 324),
    new Student(8, "Nam", "Dev", 31, "Male", "Computer Engineering", 2014, "Karnataka", 433),
    new Student(9, "Sonu", "Shankar", 27, "Female", "Computer Engineering", 2018, "Karnataka", 7),
    new Student(10, "Shubham", "Pandey", 26, "Male", "Instrumentation Engineering", 2017, "Mumbai", 98));
```

- c. Display list of students whose name starts with A
- d. Group The Student By Department Names
- e. Find the total count of student using stream
- f. Find the max age of student
- g. Find the max age of student departmentwise
- h. Display unique department names
- i. Find the count of student in each department
- j. Find the list of students whose age is less than 30
- k. Find the list of students whose rank is in between 50 and 100
- l. Find the average age of male and female students
- m. Find the department who is having maximum number of students
- n. Find the Students who stays in Delhi and sort them by their names

EXTRAS

1. Find the average rank in all departments
2. Find the highest rank in each department
3. Find the list of students and sort them by their rank
4. Find the student who has second rank