1. How do you get a list of all employee names and ages?

```
List<String> namesAndAges = employeeList.stream().map(emp -> emp.getName() + " - " + emp.getAge()).toList();
```

2. How do you get a list of gender and city of all employees?

```
List<String> genderCityList = employeeList.stream() .map(emp -> emp.getGender() + " - " + emp.getCity()).toList();
```

3. How to get unique department names?

```
List<String> uniqueDepartments = employeeList.stream().map(Employee::getDeptName) .distinct().toList();
```

4. How to get unique city names?

```
List<String> uniqueCities = employeeList.stream().map(Employee::getCity).distinct().toList();
```

5. How to find the oldest employee?

```
Optional<Employee>oldestEmp=employeeList.stream().max(Comparator.comparingInt(Employee::getAge));
```

6. How to find the average age of employees?

```
Double avgAge = employeeList.stream().collect(Collectors.averagingInt(Employee::getAge));
```

7. How to get all employees whose name starts with 'A'?

```
List<Employee> t=empList.stream().filter(e->e.getName().startsWith(“A”)).toList();
```

8. How to sort employees by age in descending order?

```
List<Employee> sortedByAgeDesc=employeeList.stream().sorted(Comparator.comparing(Employee::getAge).reversed()).toList();
```

9. How to group employee names by department?

```
Map<String,List<String>> namesByDept=employeeList.stream().collect(Collectors.groupingBy(Employee::getDeptName,Collectors.mapping(Employee::getName, Collectors.toList())));
```

10. **How to calculate total age of all employees?**

```
int totalAge = employeeList.stream().mapToInt(Employee::getAge).sum();
```

11. How to partition employees based on age > 30?

```
Map<Boolean,List<Employee>> partitioned=employeeList.stream().collect(Collectors.partitioningBy(emp -> emp.getAge() > 30));
```

12. How to find all active employees with salary > 5000?

```
List<Employee> highEarners = employeeList.stream().filter(emp -> emp.isActiveEmp() && emp.getSalary() > 5000).toList();
```

13. How to get names of employees from the "IT" department?

```
List<Employee> a=empList.stream().filter(e->”IT”.equals(emp.getDeptName()))
.map(Employee::getName).toList();
```

14. How to count active vs inactive employees?

```
Map<Boolean,Long> activeCount=employeeList.stream().collect(Collectors.groupingBy(Employee::isActiveEmp, Collectors.counting()));
```

15. How to get employee names from "Mumbai" sorted by salary descending?

```
List<String> mumbaiHighEarners = employeeList.stream().filter(emp ->
"Mumbai".equals(emp.getCity()))
.sorted(Comparator.comparingDouble(Employee::getSalary).reversed())
.map(Employee::getName)
.toList();
```

16. How to get all employees older than 25?

```
List<Employee> ageAbove25 = employeeList.stream().filter(e->e.getAge()>25).toList();
```

17. How to count employees in each department?

```
Map<String,Long> empCountByDept=employeeList.stream().collect(Collectors.groupingBy(Employee::getDeptName, Collectors.counting()));
```

18. How to get average age of employees in each department?

```
Map<String,Double> avgAgeByDept=employeeList.stream().collect(Collectors.groupingBy(Employee::getDeptName, Collectors.averagingInt(Employee::getAge)));
```

19. How to get a list of distinct employee ages?

```
List<Integer> distinctAges = employeeList.stream().map(Employee::getAge).distinct().toList();
```

20. How to get the salary of each employee?

```
List<Double> salaryList = employeeList.stream().map(Employee::getSalary).toList();
```

21. How to get average salary per department?

```
Map<String,Double>avgSalaryByDept=employeeList.stream().collect(Collectors.groupingBy(
Employee::getDeptName, Collectors.averagingDouble(Employee::getSalary)));
```

22. Find the first repeatating character in the string using stream api?

```
String str=”Java code threads”;
LinkedHashMap<Character,Long> input=str.toLowerCase().chars().mapToObj(c->(char)c).
collect(Collectors.groupingBy(x->x,LinkedhashMap::new,Collectors.counting()));
Character character=input.entrySet().stream().filter(x->x.getValue()>1).
map(x->x.getKey()).findFirst().get();
```

22. Find the first non-repeatating character in the string using stream api?

```
LinkedHashMap<Character,Long> output=str.toLowerCase().chars().mapToObj(c->(char)c).
Collect(Collectors.groupingBy(x->x,LinkedHashMap::new,Collectors.counting()));

Character character=input.entrySet().stream().filter(x->x.getValue()==1).
map(x->x.getKey()).findFirst().get();
```

23. Find the most repeated character in string

```
String str=”jashdjgsgxsafc”;
Optional<Character> input=str.chars().mapToObj(c->(char)c).collect(Collectors.groupingBy(
Fundtion.identity(),Collectors.counting()).
entrySet().
stream().
max(Map.Entry.<Character,Long>comparingByValue()).
map(Map.Entry::getKey);

input.ifPresentOrElse(c->Syestem.out.println(“Most repeated charcter”+c),
()->System.out.println(“String is empty or has no repeated characters”));
```

24. Find the frequency of each character in string

```
String str=”Ravichavan”;
Map<Character,Long> input=str.chars().mapToObj(c->(char)c).collect(Collectors.groupingBy(
Function.identity().Collectors.counting()));
```

25. Find the frequency of String in a List

```
List<String > sList=Arrays.asList(“Ravi”,”Sumit”,”Karun”,”Nava”,”Nava”,”Ravi”);
Map<String,Long> input=sList.stream().collect(Collectors.groupingBy(Function.identity(),
Collectors.counting()));
```

26. Find the longest word in a string

```
String str=”Virat Kohali and mahendrasingh dhoni”;
String longestWord=Arrays.stream(str.split(“ ”)).max(Comparator.comparingInt(
String::length)).orElse(“ “);
```

26. Find the longest word in a string

```
String smallestWord=Arrays.stream(str.split(“ “)).min(Comparator.comparingInt(
String::length)).orElse(“ ”);
```

27. Find the Second longest word in the string

```
String secondLongest=Arrays.stream(str.split(“ ”)).sorted(Comparator.comparing(
String::length).reversed()).skip(1).findFirst().orElse(“ ”);
```

28. Find the 2nd highest word length

```
int secondLength=Arrays.stream(str.split(“ “)).map(x->x.length()).sorted(Copmarator.
reverseOrder()).skip(1).findFirst().get();
```

29. Find the Duplicate character in string

```
String str=”jhdasgcdvcgahv”;
List<Character> list=str.chars().distinct().mapToObj(c->(char)c).collect(Collectors.toList);
```

30. How do you count by each and every word length

```
List<String> str=Arrays.asList(“helloworld”);
Map<Integer,Long> input=str.stream().collect(Collectors.groupingBy(String::length,
Collectors.counting));
```

31. How do you find the groupLength

```
List<String> str=Arrays.asList(“banana”,”apple”,”chicku”);
Map<Integer,List<String>> input=str.stream().collect(Collectors.groupingBy(String::length));
```

32. Given a list of Strings, find the frequency of each word using Java Streams

```
List<String> words = Arrays.asList("apple", "cherry", "apple", "orange", "banana", "cherry");
Map<String,Long> input=Arrays.stream().collect(Collectors.groupingBy(Function.identity(),
Collectors.counting()));
```

33. Find the Second highest value in the list

```
List<Integer> list=Arrays.asList(1,2,3,7,9,4,6);
Optional<Integer> input=list.stream().sorted(Comparator.reverseOrder()).limit(2).skip(1).
findFirst();
```

34. Find the Second lowest value in the list

```
Optional<Integer> input=list.stream().sorted(Comparator.naturalOrder()).limit(2).skip(1).
findFirst();
```

35. Find the max value in the list

```
int max=list.stream().max(Integer::compareTo).get();
```

36. Find the min value in the list

```
int min=list.stream().min(Integer::compareTO).get();
```

37. How do you find the unique element

```
List<Integer> list=Arrays.asList(1,2,3,4,5,3,2);
List<Integer> h=list.stream().distinct().toList();

Set<Integer> f=new HashSet<>();
List<Integer> n=list.stream().filter(k->!f.add(k)).toList();
```

38. How do we find in the list even number

```
List<Integer> list=Arrays.asList(1,23,4,5,8,9);
List<Integer> input=list.stream().filter(n->n%2==0).toList();
```

39. Pair anagrams from a list of strings. one word consider only one anagram

```
String [] a1={"pat","tap","pan","map","team","tree","meat"};
List<String> list=Arrays.asList(a1);
Map<Object,List<String>> list1=list.stream().stream(Collectors.groupingBy(
x->toLowerCase().split(“ ”)).sorted(Collectors.toList()));
```

40. Find the sum of all the elements in a list.

```
List<Integer> list=Arrays.asList(1,2,3,4,5);
int ad=list.stream().mapToInt(Integer::intValue).sum();
```

41. Sort a list of strings in alphabetical order

```
List<String> list=Arrays.asList(“Virat”,”Ravi”,”Balu”,”Pavan”);
List<String> num=list.stream().sorted().toList();
```

42. find the 2nd highest occurring character in a string using Java 8 Stream API

```
String st = "thetimeisthreeoclock";
Optional<Character> secondMax = st.chars()
            .mapToObj(c -> (char) c)
            .collect(Collectors.groupingBy(Function.identity(), Collectors.counting()))
            .entrySet()
            .stream()
            .sorted(Map.Entry.<Character, Long>comparingByValue().reversed())
          .skip(1) // skip the first (most frequent)
          .map(Map.Entry::getKey)
          .findFirst(); // get the second highest
   secondMax.ifPresentOrElse(

            c -> System.out.println("Second most repeated character: " + c),
            () -> System.out.println("No second most frequent character found")

        );
```

42. How do we reverse String

```
String s=”Ravi”;
String rev=””;
for(int i=0; i<s.length()-1 ; i--)
{
      rev=rev+s.charAt(i);

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

43. How do we check the String is palindrome or not

```
String s=”Dipak”;
String rev=””;
for(int i=s.length()-1;i>=0; i--)
{
       rev=rev+s.charAt(i);
}
if(s.equals(rev))
{
     Sytem.out.println(“Palindrome number”);
}
else {
      System.out.println(“ Palindrome String”); }
```