1. Write a program to create a class Product :
-Data members : int id, String name, float price;
-create constructor
-create a list of product objects
-create a new list of names of the product whose price is less than the 30000 using streams
-Print the name list
OR
-Print the names directly without creating list

```
import java.util.*;
class Product{
    int id;
    String name;
    float price;

    public Product(int id, String name, float price) {
        this.id = id;
        this.name = name;
        this.price = price;
    }

    public static void main(String[] args) {
        List<Product> productsList = new
ArrayList<Product>();

        productsList.add(new Product(1,"HP
Laptop",25000f));
        productsList.add(new Product(2,"Dell
Laptop",30000f));
        productsList.add(new Product(3,"Lenevo
Laptop",28000f));
        productsList.add(new Product(4,"Sony
Laptop",28000f));
        productsList.add(new Product(5,"Apple
```

```
Laptop",90000f));

        //Printing Directly
        productsList.stream()          //Stream of Products
                .filter(product -> product.price < 30000)
//stream of products with price <30000
                .forEach(product ->
System.out.println(product.name));

        //Creating list
        List<String> namelist = new ArrayList<>() ;
        productsList.stream()
                .filter(product -> product.price < 30000)
                .forEach(p -> namelist.add(p.name));
        System.out.println(namelist);

        //Creating list
        List<String> s = productsList.stream()
//stream of product objects
                .filter(product -> product.price < 30000)
//stream of product objects with price<30000
                .map(p -> p.name)                       //stream of
String names with price<30000
                .toList();                          // list of string
names
        System.out.println(s);
    }

}
```

2. Write a program to input a Sentence and :
-count the number of words with length greater than 4 using stream.
-convert words which start with ‘a’ to uppercase and print

```
import java.util.Arrays;
import java.util.Scanner;

public class countWords {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter a sentence :");
        String[] words = sc.nextLine().split(" ");

        int count = (int) Arrays.stream(words)
                .filter(s -> s.length()>4)
                .count();
        System.out.println(count);

        Arrays.stream(words)
                .filter(s -> s.toLowerCase().startsWith("a"))
                .map(s -> s.toUpperCase())
                .forEach(s -> System.out.println(s));

        Arrays.stream(words)
                .filter(s -> s.toLowerCase().startsWith("a"))
                .map(s -> s.toUpperCase())
                .forEach(s -> System.out.print(s+" "));
    }
}
```

3. Write a program to create a sorted List of the square of all distinct numbers from an integer list

Input : {2,3,6,8,3,4,6}
Output : {4,9, 16, 36,64}

```
import java.util.Arrays;
import java.util.List;
import java.util.stream.Collectors;

public class distinctSqr {
    public static void main(String[] args) {
        List<Integer> numbers = Arrays.asList(9, 10, 3, 4, 7,
3, 4);
        List<Integer> distinct = numbers.stream()
                .distinct()
                .map( i -> i*i)
                .sorted()
                .collect(Collectors.toList());
        System.out.println(distinct);

    }
}
```