```java
1  import java.io.File;
2  import java.io.FileNotFoundException;
3  import java.util.Scanner;
4
5  public class NYTPCodingChallenge3 {
6
7      public static void main(String[] args) throws FileNotFoundException {
8
9          Scanner file=new Scanner(new File("challenge3.txt"));  //Scanner used for file
   input
10         int num=file.nextInt();
11         file.nextLine();
12         for(int x=0; x<num; x++){
13             System.out.println(NYTPCodingChallenge3.findRoot(file.nextLine()));
   //calls the find root method and passes a String argument to the method
14
15         }
16
17     }
18
19     public static String findRoot(String word){
20
21         //While loop to check the prefix - loops continues until all the prefixes are
   removed
22         while(word.startsWith("un")||
   word.startsWith("re")||word.startsWith("ex")||word.startsWith("en")||word.startsWith("p
   re")|| word.startsWith("mis"))
23         {
24             if(word.startsWith("un")||
   word.startsWith("re")||word.startsWith("ex")||word.startsWith("en"))
25                 word=word.substring(2);  //removes the first two letters
26
27             if(word.startsWith("pre")|| word.startsWith("mis"))
28                 word=word.substring(3);  //removes the first three letters
29         }
30         //While loop to check the suffix
31         while(word.endsWith("s")|| word.endsWith("ed")|| word.endsWith("or") ||
   word.endsWith("ing")|| word.endsWith("ion") || word.endsWith("ist")){
32
33             if(word.endsWith("s"))
34             word=word.substring(0,word.length()-1);  //Removes the last letter
35
36         if(word.endsWith("ed")|| word.endsWith("or"))
37             word=word.substring(0,word.length()-2);  //Removes the last two letters
38
39
40         if(word.endsWith("ing")|| word.endsWith("ion") || word.endsWith("ist") )
41             word=word.substring(0,word.length()-3);  //Removes the last three letters
42         }
43
44         if(word.length()==0)
45             word="VOID";   //word is changed to void if no letters remain
46
47         return word;
48     }
49
50 }
51
```