```
/*
 * Click `Run` to execute the snippet below!
 */

import java.io.*;
import java.util.*;

/*
 * To execute Java, please define "static void main" on a class
 * named Solution.
 *
 * If you need more classes, simply define them inline.
 */

class Solution {
  List<String> allowedWords =
Arrays.asList("zero","one","two","three","four","five","six","seven","eight","nine","ten","ele
ven","twelve","thirteen","fourteen","fifteen","sixteen","seventeen","eighteen","nineteen","t
wenty","thirty","forty","fifty","sixty","seventy","eighty","ninety","hundred","thousand","milli
on","billion","trillion");
  public static String convertWordToInt(String word) {
    String input = word.toLowerCase().replaceAll(" and"," ");
    String[] splitWords = input.split("\\s+");
    long res=0,finalRes=0;
    boolean isError=false;
    String resStr=null;

    for(String w: splitWords) {
      switch(w) {
        case "zero":
          res+=0;
          break;
        case "one":
          res+=1;
          break;
        case "two":
          res+=2;
          break;
        case"three":
          res+=3;
          break;
        case "four":
          res+=4;
          break;
        case"five":
          res+=5;
          break;
```

```
case "six":
  res+=6;
  break;
case "seven":
  res+=7;
  break;
case "eight":
  res+=8;
  break;
case "nine":
  res+=9;
  break;
case "ten":
  res+=10;
  break;
case "eleven":
  res+=11;
  break;
case "twelve":
  res+=12;
  break;
case "thirteen":
  res+=13;
  break;
case "fourteen":
  res+=14;
  break;
case "fifteen":
  res+=15;
  break;
case "sixteen":
  res+=16;
  break;
case "seventeen":
  res+=17;
  break;
case "eighteen":
  res+=18;
  break;
case "nineteen":
  res+=19;
  break;
case "twenty":
  res+=20;
  break;
case "thirty":
  res+=30;
```

```
      break;
    case "forty":
      res+=40;
      break;
    case "fifty":
      res+=50;
      break;
    case "sixty":
      res+=60;
      break;
    case "seventy":
      res+=70;
      break;
    case "eighty":
      res+=80;
      break;
    case "ninety":
      res+=90;
      break;
    case "hundred":
      res*=100;
      break;
    case "thousand":
      res*=1000;
      finalRes+=res;
      res=0;
      break;
    case "million":
      res*=1000000;
      finalRes+=res;
      res=0;
      break;
    case "billion":
      res*=1000000000;
      finalRes+=res;
      res=0;
      break;
    case "trillion":
      res*=1000000000000L;
      finalRes+=res;
      res=0;
      break;
    default:
      resStr="Invalid Argument Exception";
      break;
  }
}
```

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  finalRes+=res;

  return resStr==null?String.valueOf(finalRes):resStr;

}

public static String add(String num1,String num2) throws Exception{
  String n1=null,n2=null;
  long l1=0,l2=0;
  String res=null;
  try {
    n1= convertWordToInt(num1);
    l1=Long.parseLong(n1);
  }catch(Exception e) {
    res = "Invalid Argument Exception";
  }
  if(res==null) {
    try {
    n2= convertWordToInt(num2);
    l2=Long.parseLong(n2);
  }catch(Exception e) {
      res = "Invalid Argument Exception";
  }
  }

  return res!=null?res:String.valueOf(l1+l2);
}
public static String subtract(String num1,String num2) throws Exception {
  String n1=null,n2=null;
  long l1=0,l2=0;
  String res=null;
  try {
    n1= convertWordToInt(num1);
    l1=Long.parseLong(n1);
  }catch(Exception e) {
    res = "Invalid Argument.Please validate your input.";
  }
  if(res==null) {
    try {
    n2= convertWordToInt(num2);
    l2=Long.parseLong(n2);
  }catch(Exception e) {
      res = "Invalid Argument.Please validate your input.";
  }
  }

  return res!=null?res:String.valueOf(l1-l2);
```

```
}
public static String multiply(String num1,String num2) throws Exception {
  if(num1.equalsIgnoreCase("zero") || num2.equalsIgnoreCase("zero") )
    return "0";
  String n1=null,n2=null;
  long l1=0,l2=0;
  String res=null;
  try {
    n1= convertWordToInt(num1);
    l1=Long.parseLong(n1);
  }catch(Exception e) {
    res = "Invalid Argument.Please validate your input.";
  }
  if(res==null) {
    try {
    n2= convertWordToInt(num2);
    l2=Long.parseLong(n2);
  }catch(Exception e) {
      res = "Invalid Argument.Please validate your input.";
  }
  }

  return res!=null?res:String.valueOf(l1*l2);
}
public static String divide(String num1,String num2)  {
  String res=null;
  if(num2.equalsIgnoreCase("zero"))
     res = "Division by Zero Error";
  String n1=null,n2=null;
  long l1=0,l2=0;
  if(res!=null)
    return res;
  try {
    n1= convertWordToInt(num1);
    l1=Long.parseLong(n1);
  }catch(Exception e) {
    res = "Invalid Argument.Please validate your input.";
  }
  if(res==null) {
    try {
    n2= convertWordToInt(num2);
    l2=Long.parseLong(n2);
  }catch(Exception e) {
      res = "Invalid Argument.Please validate your input.";
  }
  }
```

```
    return res!=null?res:String.valueOf(l1/(double)l2);
  }
  public static void main(String[] args) throws Exception{
    try {
    System.out.println(convertWordToInt("Ten"));
     System.out.println(convertWordToInt("fifty one"));
     System.out.println(convertWordToInt("three hundred fifty one"));
     System.out.println(convertWordToInt("Four Thousand Three Hundred fifty one"));
     System.out.println(convertWordToInt("fifty three thousand"));
    System.out.println(add("three hundred and fifty","four thousand and twenty two"));
    System.out.println(subtract("three ihundred and fifty","four thousand and twenty
two"));
    System.out.println(multiply("three hundred and fifty","four thousand and twenty two"));
    System.out.println(divide("three hundred and fifty","four thousand and twenty two"));
      System.out.println(divide("three hundred and fifty","zero"));
    }catch(Exception e) {
      e.printStackTrace();
      System.out.println(e);
    }

  }
}
```

Output

```
10
51
351
4351
53000
4372
Invalid Argument.Please validate your input.
1407700
0.0870213823968175
Division by Zero Error
```