**Archer Ouyang**

**import** java.math.BigInteger;

**import** java.util.Scanner;

*/\*\**

*\* Created by GFX72V on 2016/12/18.*

*\*/*

**public class** crabs {

**public static void** main(String args[]) {

String sentence;

String senInterger = **""**;

String encrypted = **""**;

String decrypted = **""**;

String result = **""**;

System.***out***.println(**"Enter your sentence you want to encrypt"**);

Scanner input = **new** Scanner(System.***in***);

sentence = input.nextLine();

**for** (**int** i = 0; i < sentence.length(); i++) {

**char** c = sentence.charAt(i);

**if** ((**int**) c < 100) {

senInterger += **"0"** + (**int**) c;

} **else** {

senInterger += **""** + (**int**) c;

}

}

System.***out***.println(**"Integer Sentence"** + senInteger);

**for** (**int** i = 0; i < senInteger.length(); i = i + 3) {

BigInteger keyp1p2 = **new** BigInteger(**"1221"**);

BigInteger keyd = **new** BigInteger(**"25"**);

BigInteger keye= **new** BigInteger(**"553"**);

BigInteger message = **new** BigInteger(senInterger.substring(i,i+3));

BigInteger encrypt = message.modPow(keye,keyp1p2);

**if**(Integer.*parseInt*(encrypt.toString())<100){

encrypted+=**"0"**+encrypt;

}

**else**{encrypted+=**""**+encrypt;}

BigInteger decrypt = encrypt.modPow(keyd,keyp1p2);

**if**(Integer.*parseInt*(decrypt.toString())<100){

decrypted+=**"0"**+decrypt;

}

**else**{decrypted+=**""**+decrypt;}

}

System.***out***.println(**"encrypted message:"**+encrypted+**"dencrypted message:"**+decrypted);

**for**(**int** i =0;i<decrypted.length();i=i+3){

**int** number=Integer.*parseInt*(decrypted.substring(i,i+3));

**char** res=(**char**)number;

result+=res;

}

System.***out***.println(result);

}

}