import java.io.\*;

import java.util.\*;

// Read only region start

class UserMainCode

{

public class Result{

public final String output1;

public final String output2;

public final String output3;

public Result(String out1, String out2, String out3){

output1 = out1;

output2 = out2;

output3 = out3;

}

}

public Result encodeThreeStrings(String input1,String input2,String input3){

// Read only region end

//Write code here...

int i=0;String out1="";String out2="";String out3="";

String[] s={input1.trim(),input2.trim(),input3.trim()};

for(i=0;i<3;i++){

int len=s[i].length();

int r=len%3;

int q=len/3;

if(r==0){

out1+=s[i].substring(0,q);

out2+=s[i].substring(q,(2\*q));

out3+=s[i].substring((2\*q),len);

}

else if(r==1){

out1+=s[i].substring(0,q);

out2+=s[i].substring(q,(2\*q)+1);

out3+=s[i].substring((2\*q)+1,len);

}

else{

out1+=s[i].substring(0,q+1);

out2+=s[i].substring(q+1,(2\*q)+1);

out3+=s[i].substring((2\*q)+1,len);

}

}

String n="";

for(int j=0;j<out3.length();j++){

String c=out3.charAt(j)+"";

int check=(int)out3.charAt(j);

if(check>64&&check<91){

c=c.toLowerCase();

}

else{

c=c.toUpperCase();

}

n+=c;

}

out3=n;

Result r= new Result(out1,out2,out3);

return r;

}

}