import java.util.\*;

class NUMBERS\_BOI

{

void Prime()

{

Scanner sc=new Scanner(System.in);

System.out.println("Enter n");

int n=sc.nextInt();

int ctr=0;

int temp=n;

for(int i=1;i<=n;i++)

{

if(n%i==0)

ctr++;

}

if(ctr==2)

System.out.println("It is a prime number");

}

void perfect()

{

Scanner sc=new Scanner(System.in);

System.out.println("Enter n");

int n=sc.nextInt();

int temp=n;

int sum=0;

for(int i=1;i<n;i++)

{

if(n%i==0)

sum=sum+i;

}

if(sum==n)

System.out.println("it is a perfect number");

}

void Amstrong()

{

Scanner sc=new Scanner(System.in);

System.out.println("Enter n");

int n=sc.nextInt();

int temp=n;

int dig,sum=0;

while(temp>0)

{

dig=temp%10;

sum=sum+(dig\*dig\*dig);

temp=temp/10;

}

if(sum==n)

System.out.println("It is an Amstrong number");

}

void Automorphic()

{

Scanner sc=new Scanner(System.in);

System.out.println("Enter n");

int n=sc.nextInt();

int temp=n,ctr=0;

int sq=n\*n,result;

while(temp>0)

{

temp=temp/10;

ctr++;

}

result=sq%(int)Math.pow(10,ctr);

System.out.println("num="+n);

System.out.println("square="+sq);

if(result==n)

System.out.println(" it is automorphic ");

}

void Pallendrome()

{

Scanner sc=new Scanner(System.in);

System.out.println("Enter n");

int n=sc.nextInt();

int temp=n,d=0,r=0;

while(temp>0)

{

d=temp%10;

r=r\*10+d;

temp=temp/10;

}

if(r==n)

System.out.println("It is a pallendrome");

}

void Spy()

{

Scanner sc=new Scanner(System.in);

System.out.println("Enter n");

int n=sc.nextInt();

int temp=n;

int s=0,p=1,d=0;

while(temp>0)

{

d=temp%10;

s=s+d;

p=p\*d;

temp=temp/10;

}

if(s==p)

System.out.println("It is a spy number");

}

void Duck()

{

Scanner sc=new Scanner(System.in);

System.out.println("Enter n");

int n=sc.nextInt();

int temp=n,prod=1,d=0;

while(temp>0)

{

d=temp%10;

prod=prod\*d;

temp=temp/10;

}

if(prod==0)

System.out.println("It is a duck number");

}

void Dissarium()

{

Scanner sc=new Scanner(System.in);

System.out.println("Enter n");

int n=sc.nextInt();

int temp=n;

int ctr=0;

while(temp>0)

{

ctr++;

temp=temp/10;

}

temp=n;

int s=0,d=0;

while(temp>0)

{

d=temp%10;

s=s+(int)Math.pow(d,ctr);

temp=temp/10;

ctr--;

}

if(s==n)

System.out.println("It is a dissarium number");

}

void Pronic()

{

Scanner sc=new Scanner(System.in);

System.out.println("Enter n");

int n=sc.nextInt();

boolean flag=false;

for(int i=1;i<=n;i++)

{

if(i\*(i+1)==n)

flag=true;

}

if(flag==true)

System.out.println("It is a Pronic number");

}

void Amicable()

{

Scanner sc=new Scanner(System.in);

System.out.println("Enter n1 and n2");

int n1=sc.nextInt();

int n2=sc.nextInt();

int sum1=0,sum2=0;

for(int i=1;i<n1;i++)

{

if(n1%i==0)

sum1=sum1+i;

}

for(int i=1;i<n2;i++)

{

if(n2%i==0)

sum2=sum2+i;

}

if(sum2==n1&&n2==sum1)

System.out.println("They are Ampicable numbers");

}

void Niven()

{

Scanner in = new Scanner(System.in);

System.out.print("Enter number: ");

int num = in.nextInt();

int orgNum = num;

int digitSum = 0;

while (num != 0)

{

int digit = num % 10;

num /= 10;

digitSum += digit;

}

if (digitSum != 0 && orgNum % digitSum == 0)

System.out.println(orgNum + " is a Niven number");

}

void Emrip()

{

Scanner sc=new Scanner(System.in);

System.out.println("Enter n");

int n=sc.nextInt();

int temp=n;

int rev=0,rem;

int ctr1=0,ctr2=0;

while(temp>0)

{

rem=temp%10;

rev=(10\*rev)+rem;

temp=temp/10;

}

for(int i=1;i<=n;i++)

{

if(n%i==0)

ctr1++;

}

for(int i=1;i<=rev;i++)

{

if(rev%i==0)

ctr2++;

}

if(ctr1==2&&ctr2==2)

System.out.println("it is an enrip number");

}

}