```java
public class 소수 {
/*	public static void main(String[] args) {
		int a;
		Scanner sc=new Scanner(System.in);
		a=sc.nextInt();
		int j;
		for(j=2;(a%j)!=0;j++) {
		}
		if(a==j) System.out.println("소수");
		else System.out.println("소수아님");
	}*/
	public static void main(String[] args) {
		int a;
		Scanner sc=new Scanner(System.in);
		a=sc.nextInt();
		int j=2;
		while((a%j)!=0) {
			j++;
		}
		if(a==j) System.out.println("소수");
		else System.out.println("소수아님");
	}
}


public class 약수1 {

	public static void main(String[] args) {
		Scanner sc=new Scanner(System.in);

		int a[]=new int[100];
		int b=sc.nextInt();  //6입력할 경우
		int c=0;
		int d=0;
		for(c=0;c<=b;c++) {
			if(b%c==0) {
				a[d]=c;
				d++;
			}
		}
```

```
            for(int i=0;i<d;i++) {
                System.out.println(a[i]);
            }
        }
}

public class 약수2 {

        public static void main(String[] args) {
            int lm=0;
            int n;
            int sum;
            int k;
            int j;
            for(n=4;n<=1000;n++) {
                sum=0;
                k=n/2;
                for(j=1;j<=k;j++) {
                    if(n%j==0) sum=sum+j;
                }
                if(n==sum) {
                    System.out.println(n);
                    lm++;
                }
            }
            System.out.println("갯수="+lm);
        }
}



public class 소인수분해 {
        public static void main(String[] args) {
            Scanner sc=new Scanner(System.in);
            int n=sc.nextInt();
            int c=0;
            int k;
            int s[]=new int[100];
            while(n>=2)
            {
             c=0;
```

```
                do {
                        k=2;
                        while(n%k !=0 )         k++;
                        s[c]=k;
                        c++;
                        n=n/k;
                        }while(n!=1);
                if(c!=1) {
                                for(int y=0;y<c-1;y++) {
                                        System.out.print(s[y]+"*");
                                }
                                System.out.println(s[c-1]);
                                break;
                }
                 System.out.println("소수");
                }
        }
}

public class 최대공약수_최소공배수 {

        public static void main(String[] args) {
                int a,b, big, small, nmg, gcm, lcm;
                Scanner sc=new Scanner(System.in);
                a=sc.nextInt();
                b=sc.nextInt();
                if(a>=b) {
                        big=a;
                        small=b;
                }
                else {
                        big=b;
                        small=a;
                }
                nmg=big%small;
                while(nmg!=0) {
                        big=small;
                        small=nmg;
                        nmg=big%small;
                }
                gcm=small;
```

```
            lcm=(a*b)/gcm;
            System.out.println("최대공약수="+gcm);
            System.out.println("최소공배수="+lcm);
        }
}

public class 최대공약수_최소공배수2 {
        public static void main(String[] args) {
            int a,b,r,high,low,L;
            Scanner sc=new Scanner(System.in);
            a=sc.nextInt();
            b=sc.nextInt();
            r=1;
            if(a>b) {
                high=a;
                low=b;
            }
            else {
                low=a;
                high=b;
            }
            while(r>0) {
                r=high%low;
                high=low;
                low=r;
            }
            L=(a*b)/high;
            System.out.println("최대공약수="+high);
            System.out.println("최소공배수="+L);
        }
}

public class 진법변환10_2으로 {

        public static void main(String[] args) {
            int B[]=new int[10];
            int S=0;
            int D,MOK,NMG;
            Scanner sc=new Scanner(System.in);
            D=sc.nextInt();
            do {
```

```
                MOK=D/2;
                NMG=D-MOK*2;

                B[S]=NMG;
                S=S+1;
                D=MOK;
            }while(MOK!=0);
            for(int i=S-1;i>=0;i--) {
                System.out.print(B[i]+" ");
            }
        }
}

public class 진법변환10_2_2 {

        public static void main(String[] args) {
            int dec,mok,nmg,subscript;
            Scanner sc=new Scanner(System.in);
            dec=sc.nextInt();    //입력
            int array_size=10;
            int cnt =0;
            int bin[]=new int[array_size];
            do {
                mok=dec/2;
                nmg=dec-mok*2;
                cnt++;
                subscript=array_size-cnt;
                bin[subscript]=nmg;
                dec=mok;
            } while(mok!=0);
            for(int i=0;i<array_size;i++)
            {
              System.out.print(bin[i]+" ");
            }
        }
}

public class 석차 {
        public static void main(String[] args) {
            int jumsu[]=new int[5];
            int rank[]=new int[5];
```

```
		int i,j;
		Scanner sc=new Scanner(System.in);
		System.out.println("5개의 성적을
입력하세요");
		for(i=0;i<5;i++) {
			jumsu[i]=sc.nextInt();
			rank[i]=1;
		}
		for(i=0;i<5;i++) {
			for(j=0;j<5;j++) {
				if(jumsu[i]< jumsu[j])
rank[i]=rank[i]+1;
			}
		}
		for(i=0;i<5;i++) {
			System.out.println(jumsu[i]+","+rank[i]);
		}

	}

}

public class 셀렉션소트 {
	public static void main(String[] args) {
		int a[]={10,30,15,20,70};
		int i,j,temp;
		for(i=0;i<4;i++) {
			for(j=i+1;j<5;j++) {
				if(a[i]< a[j]) {
					temp=a[i];
					a[i]=a[j];
					a[j]=temp;
				}
			}
		}

		for(i=0;i<5;i++) {
			System.out.print(a[i]+" ");
		}
	}
}
```

```java
public class 버블 {
	public static void main(String[] args) {
		int a[]= {10,30,15,20,70,90,7,0};
		int i,j,temp;
		for(i=1;i<a.length;i++) {		//1,2,3,4 step
			for(j=0;j<a.length-i;j++) {
				if(a[j]>a[j+1]) {
					temp=a[j];
					a[j]=a[j+1];
					a[j+1]=temp;
				}
			}
		}
		for(i=0;i<a.length;i++) {
			System.out.print(a[i]+" ");
		}
	}
}
```

```java
public class 병합 {
	public static void main(String[] args) {
		int i,j,k;
		int a[]= {1,3,7,9,10};
		int b[]= {2,4,7,11,13};

		int n=a.length;
		int m=b.length;

		int c[] =new int[n+m];

		i=j=k=0;
		for(int ci=0;ci<n+m;ci++) {
			if(a[i]>b[j]) {
				c[k++]=b[j++];
```

```
                } else if(a[i]< b[j]) {
                        c[k++]=a[i++];
                } else {
                        c[k++]=a[i++];
                        j++;
                }
                if(i>=n) {
                        for(int jb=j-1;jb<m;jb++) {
                                c[k++]=b[jb];
                        }
                        break;
                } else if(j>=m) {
                        for(int ia=i-1;ia<n;ia++) {
                                c[k++]=b[ia];
                        }
                        break;
                }
        }

        for(int ci=0;ci<n+m;ci++) {
                System.out.print(c[ci]+" ");
        }
    }
}


public class 이분검색 {
    public static void main(String[] args) {
        int A[]= {10,20,30,40,50,60,70,80,90,100};
        int M,L,H,K;
        L=1;
        H=10;
        M=0;
        Scanner sc=new Scanner(System.in);
        System.out.println("찾을값을 입력하세요");
        K=sc.nextInt();  //찾을 값을 입력
        while(L<=H) {
            M=(L+H)/2;
            if(K==A[M]) break;
            if(K <A[M]) H=M-1;
            else L=M+1;
```

```
            }
            if(L>H)      System.out.println("값을 찾을 수
없다.");
            else  System.out.println(M+"위치에서 찾음 ");
        }

}
```