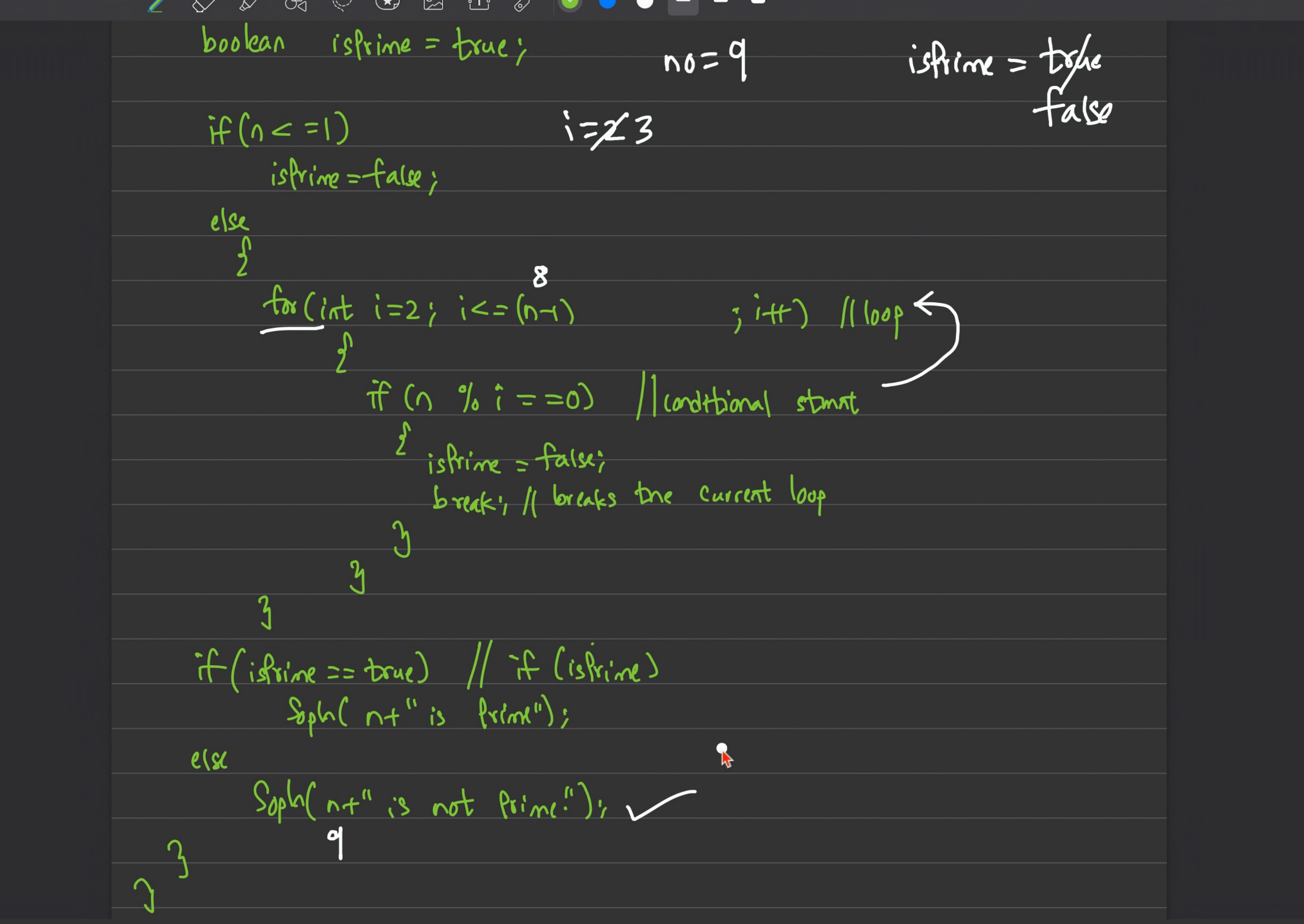
2 May 2023

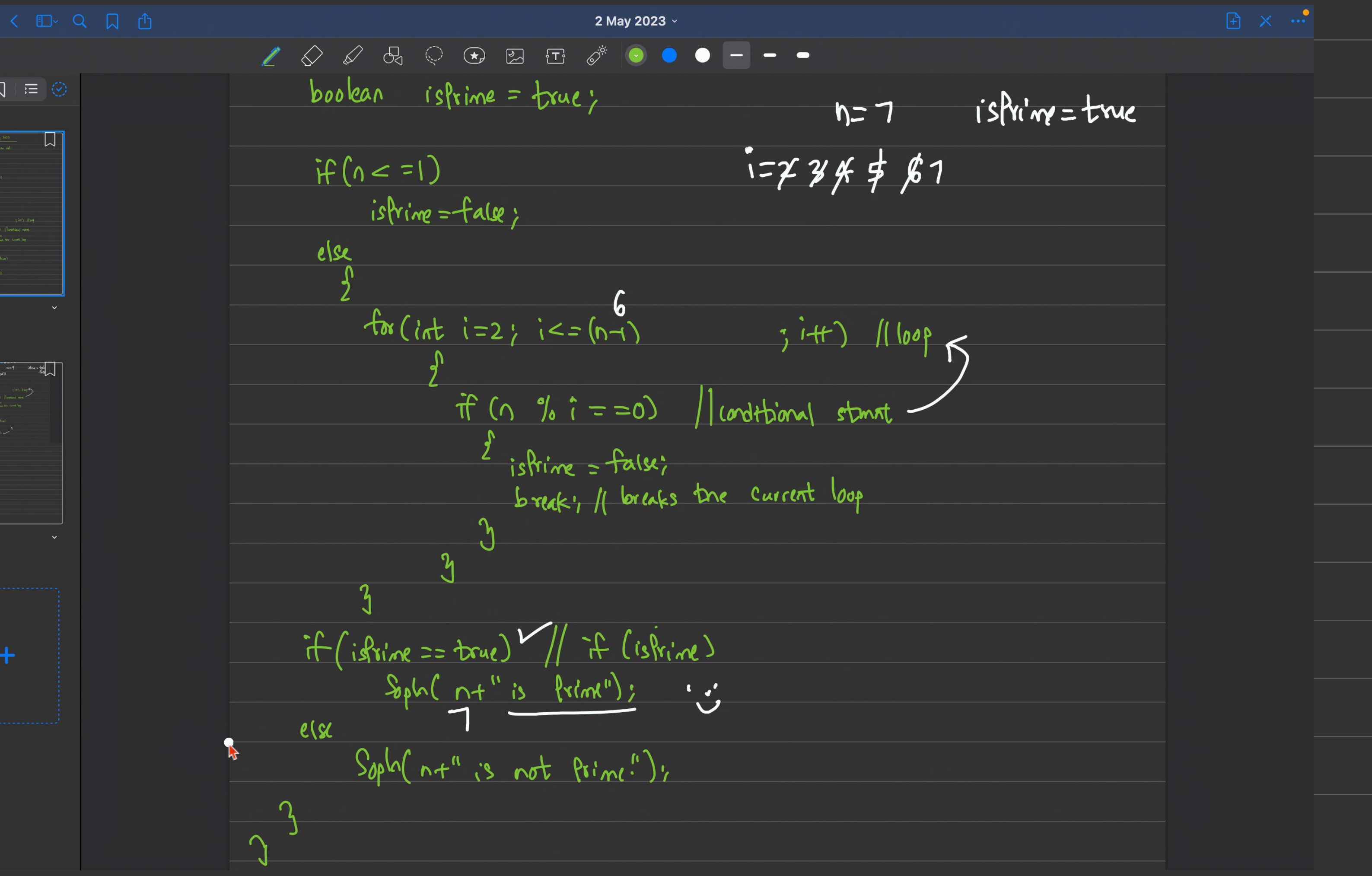
// Check if i/p no. is prime or not.

```
import java.util.*;
public class Main
{ psvm( —||—— )
  {
    Scanner sc =new Scanner (S.in);
    Sop("Enter a no:");
    int n= sc.nextInt();
    boolean isPrime = true;

    if(n< =1)
         isPrime=false;
    else
      {
         for(int i=2; i<= Math.sqrt(n) ; i++) //loop
             {
                 if (n % i = =0)  //conditional stmnt
                  {
                     isPrime = false;
                     break; // breaks the current loop
                  }
             }
      }
    if(isPrime == true)  // if (isPrime)
          Sopln( n+" is Prime");
    else
          Sopln( n+" is not Prime.");
  }
}
```



```
boolean  isPrime = true;                 no=9              isPrime = ~~true~~
                                                                     false
if(n<=1)                          i=~~2~~ 3
    isPrime=false;
else
 {
                                   8
    for(int  i=2;  i<=(n-1)                 ; i++)  // loop
       {
         if (n % i ==0)   //conditional  stmnt
           {
             isPrime = false;
             break; // breaks the current loop
           }
       }
 }
if(isPrime == true)   // if (isPrime)
     Sopln( n+" is Prime");
else
     Sopln( n+" is not Prime!");  ✓
             9
 }
}
```



```
boolean  isPrime = true;
                                          n=7        isPrime=true
if(n<=1)                               i=~~2~~ ~~3~~ ~~4~~ ~~5~~ ~~6~~ 7
    isPrime=false;
else
 {
                                  6
    for(int  i=2;  i<=(n-1)              ; i++)  // loop
       {
         if (n % i ==0)   //conditional  stmnt
           {
             isPrime = false;
             break; // breaks the current loop
           }
       }
 }
if(isPrime == true) ✓ // if (isPrime)
     Sopln( n+" is Prime");
             7
else
     Sopln( n+" is not Prime!");
 }
}
```

WAP to check whether the no·is automorphic or not·

eg: $25 \rightarrow (25)^2 \rightarrow 6\underline{25}$

$5 \rightarrow 5^2 \rightarrow 2\underline{5}$

$6 \rightarrow 6^2 \rightarrow 3\underline{6}$

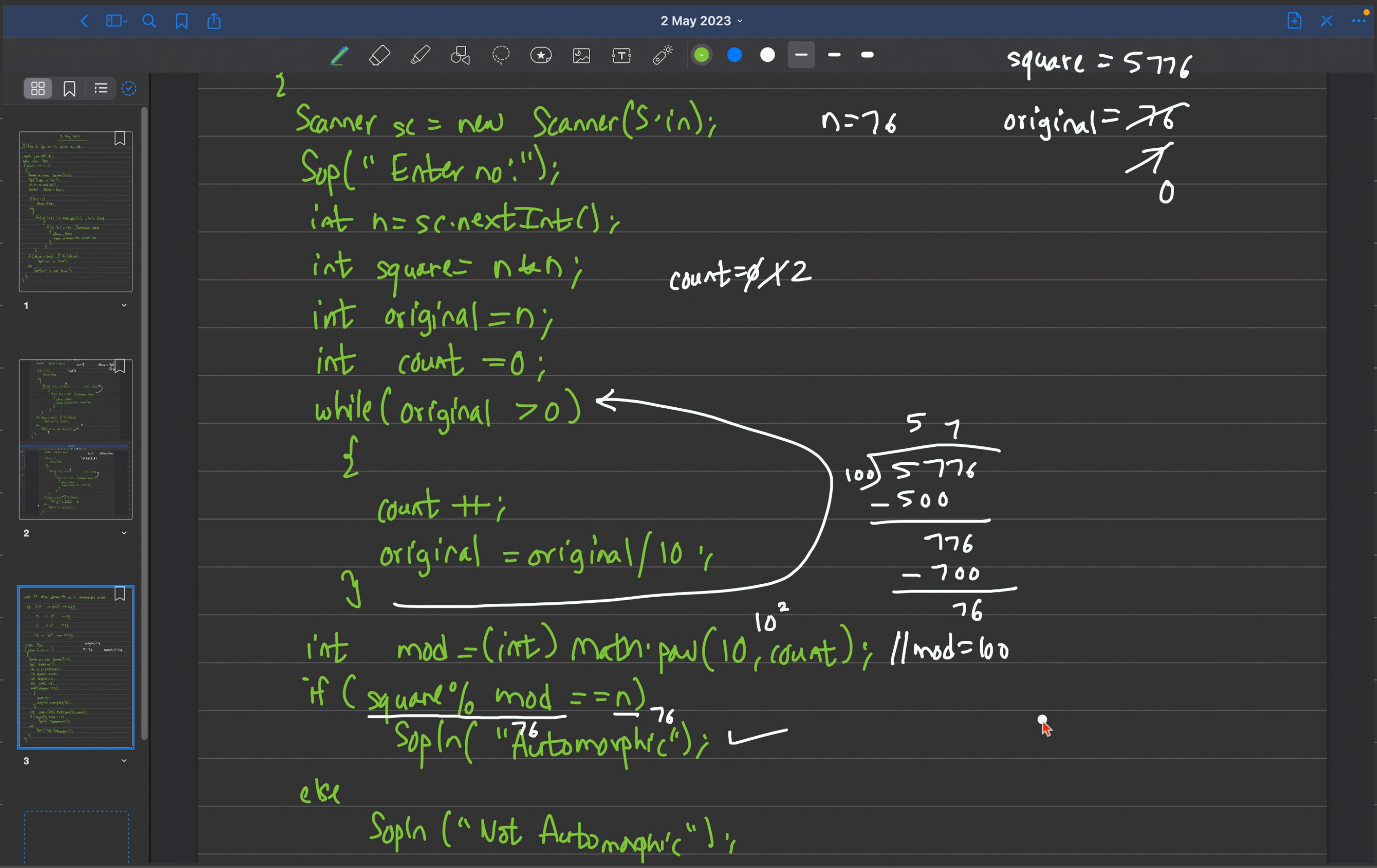
$76 \rightarrow 76^2 \rightarrow 57\underline{76}$

original =76

n=76

square=5776

```
class Main
{ psum (—u———)
 {
  Scanner sc = new Scanner(S·in);
  Sop(" Enter no:");
  int n=sc.nextInt();
  int square= n*n;
  int original =n;
  int count =0;
  while(original >0)
   {
     count ++;
     original =original/10 ;
   }
  int mod =(int) math·pow(10, count);
  if ( square% mod ==n)
       Sopln( "Automorphic");
  else
     Sopln ("Not Automorphic");
 }
}
```



```
}
Scanner sc = new Scanner(S·in);
Sop(" Enter no:");
int n=sc.nextInt();
int square= n*n;
int original=n;
int count =0;
while(original >0)
  {
    count ++;
    original =original/10 ;
  }
int mod=(int) Math.pow(10, count); //mod=100
if ( square% mod ==n)
    Sopln( "Automorphic");  ✓
else
    Sopln ("Not Automorphic");
```

square = 5776

n=76

original = ~~76~~ ~~7~~ 0

count = ~~0~~ ~~1~~ 2

$$\begin{array}{r} 57 \\ 100\overline{)5776} \\ -500 \\ \hline 776 \\ -700 \\ \hline 76 \end{array}$$

10^2

76

76

HW:

sieve of eratosthenes ? Research on this.

https://www.youtube.com/watch?v=I6HrVRGGYNI&ab_channel=VivekanandKhyade-AlgorithmEveryDay

https://www.youtube.com/results?search_query=sieve+of+eratosthenes