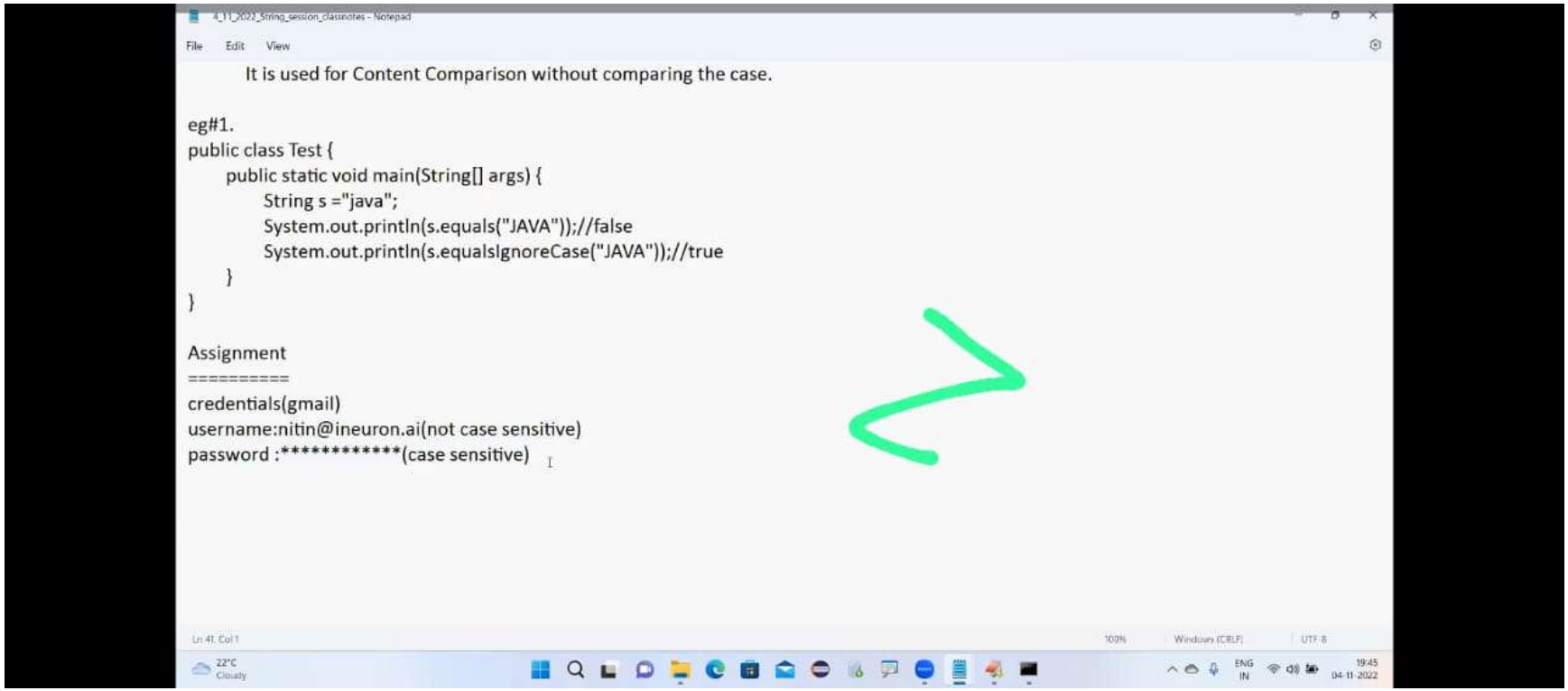
Java_String_Part3-Mutable_String


4_11_2022_String_session_classnotes - Notepad
File Edit View
It is used for Content Comparison without comparing the case.
eg#1.
public class Test {
public static void main(String[] args) {
String s ="java";
System.out.println(s.equals("JAVA"));//false
System.out.println(s.equalsIgnoreCase("JAVA"));//true
}
}
Assignment
==========
credentials(gmail)
username:nitin@ineuron.ai(not case sensitive)
password :**********(case sensitive)
Ln 41, Col 1
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Windows (CRLF)
UTF-8
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ENG
IN
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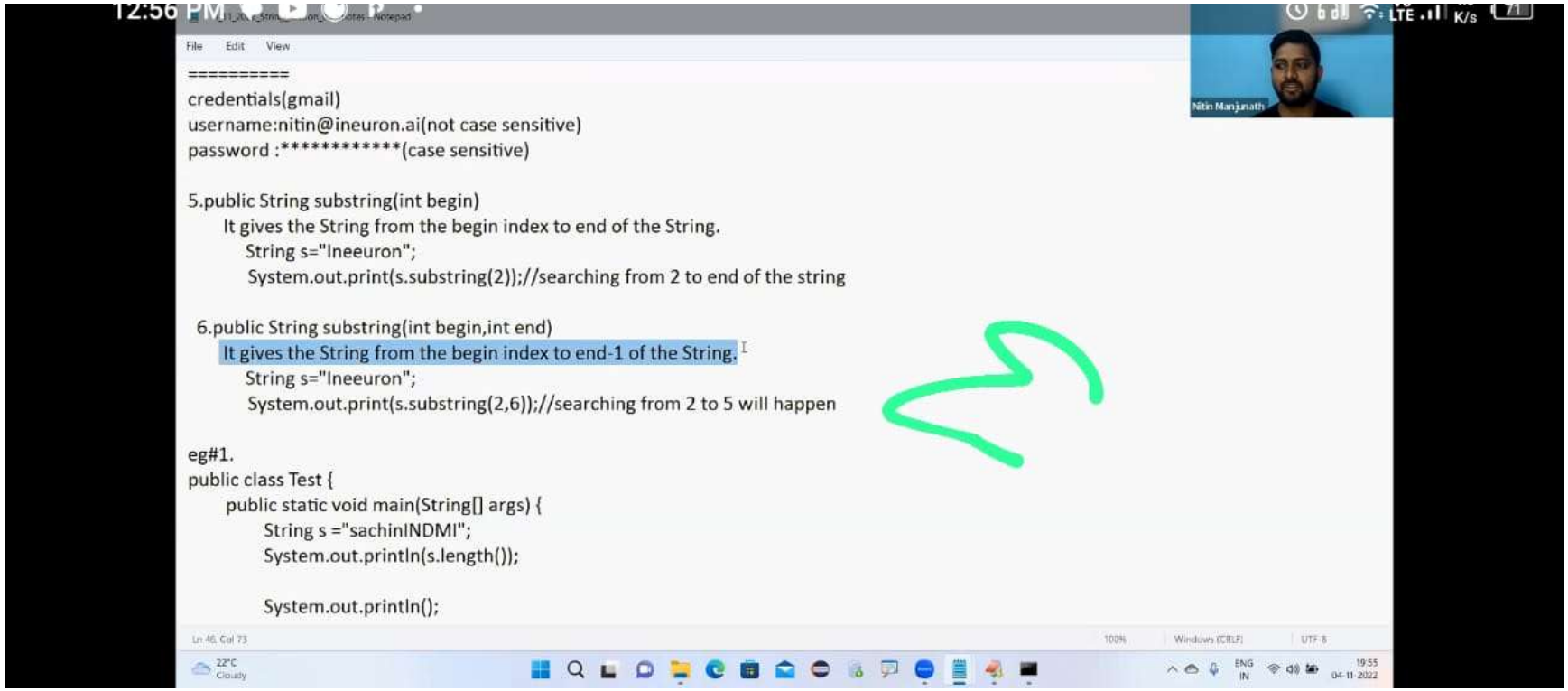
04-11-2022


12:56 PM
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==========
credentials(gmail)
username:nitin@ineuron.ai(not case sensitive)
password :**********(case sensitive)
5.public String substring(int begin)
It gives the String from the begin index to end of the String.
String s="Ineeuron";
System.out.print(s.substring(2));//searching from 2 to end of the string
6.public String substring(int begin,int end)
It gives the String from the begin index to end-1 of the String.
String s="Ineeuron";
System.out.print(s.substring(2,6));//searching from 2 to 5 will happen
eg#1.
public class Test {
public static void main(String[] args) {
String s ="sachinINDMI";
System.out.println(s.length());
System.out.println();
Nitin Manjunath
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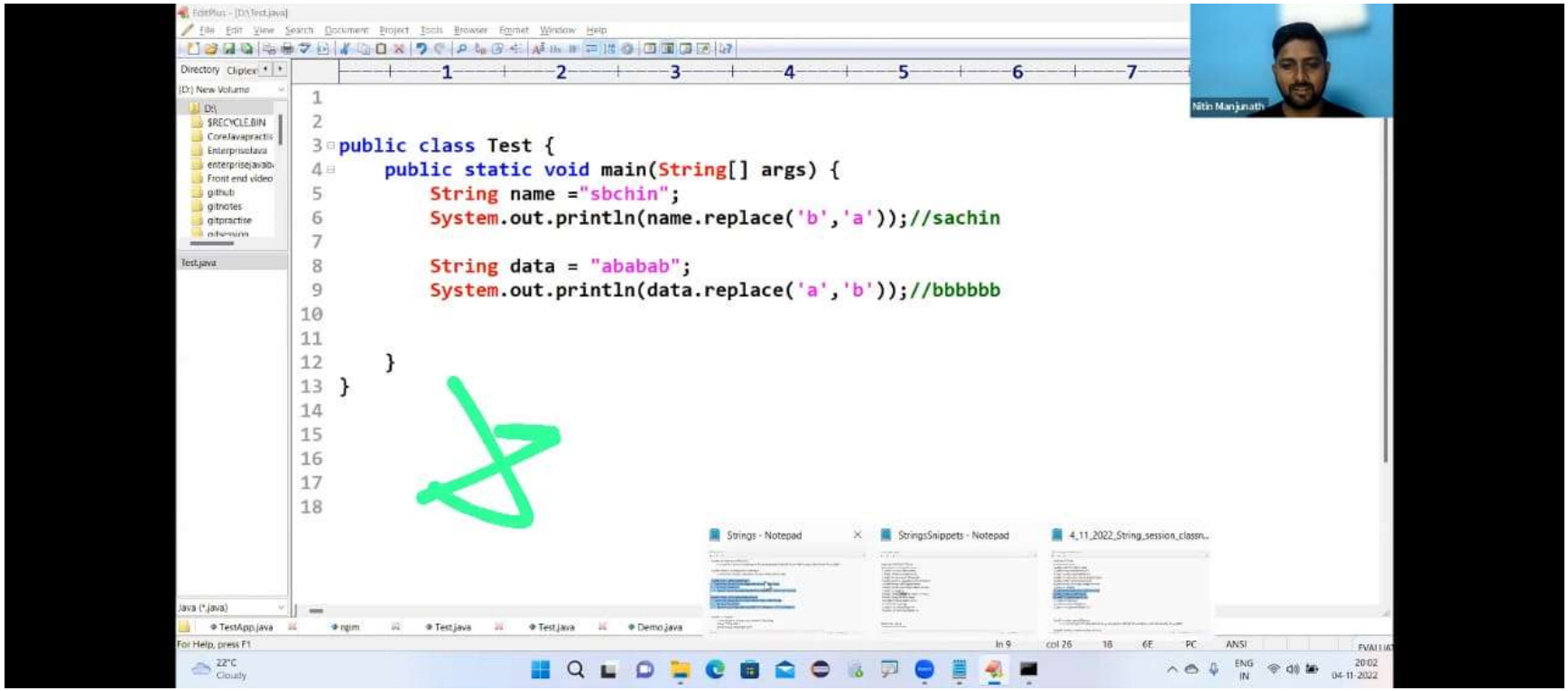
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1 2 3 4 5 6 7
1
2
3 public class Test {
4 public static void main(String[] args) {
5 String name ="sbchin";
6 System.out.println(name.replace('b','a'));//sachin
7
8 String data = "abababb";
9 System.out.println(data.replace('a','b'));//bbbbbb
10
11
12 }
13 }
14
15
16
17
18
Strings - Notepad
StringsSnippets - Notepad
4_11_2022_String_session_classn...
TestApp.java
Test.java
Test.java
Demo.java
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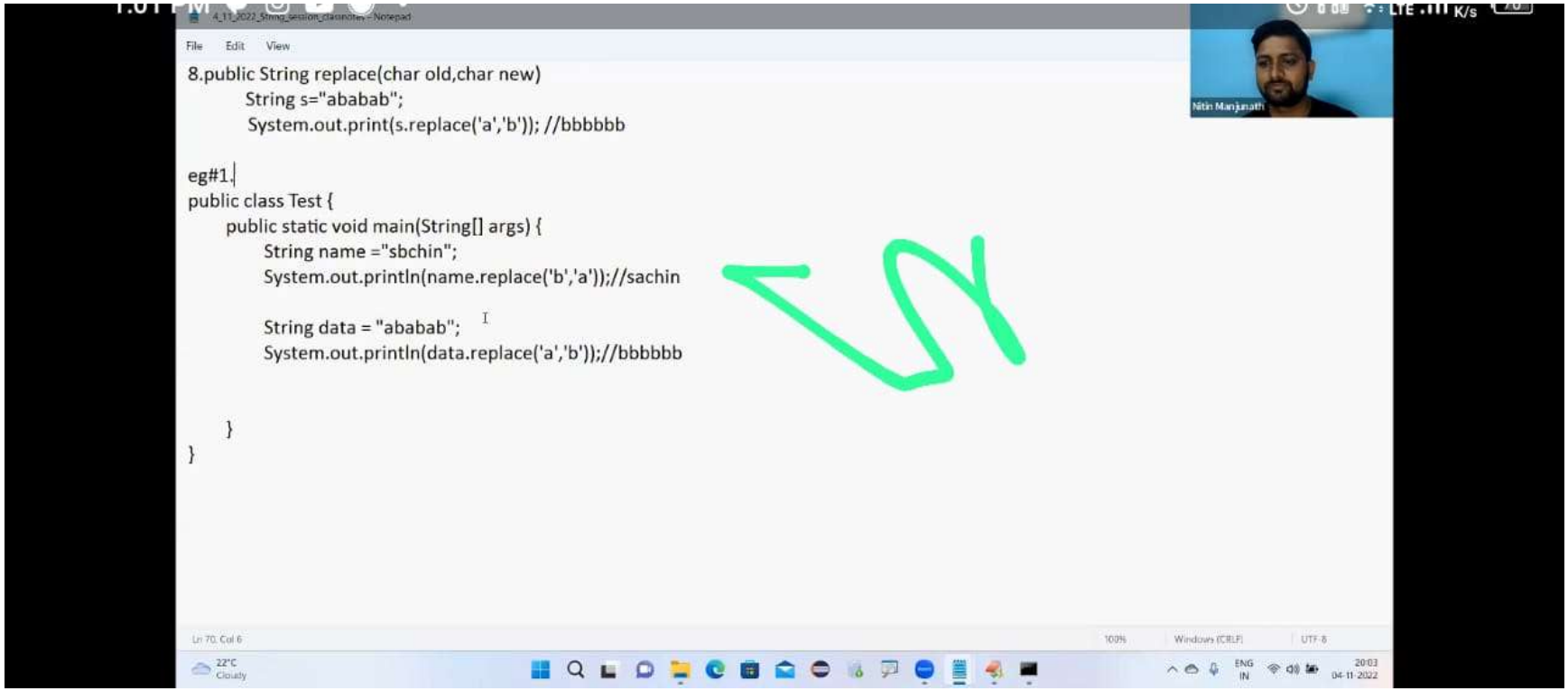
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8.public String replace(char old,char new)
String s="abababb";
System.out.print(s.replace('a','b')); //bbbbbb
eg#1.
public class Test {
public static void main(String[] args) {
String name ="sbchin";
System.out.println(name.replace('b','a'));//sachin
String data = "abababb";
System.out.println(data.replace('a','b'));//bbbbbb
}
}
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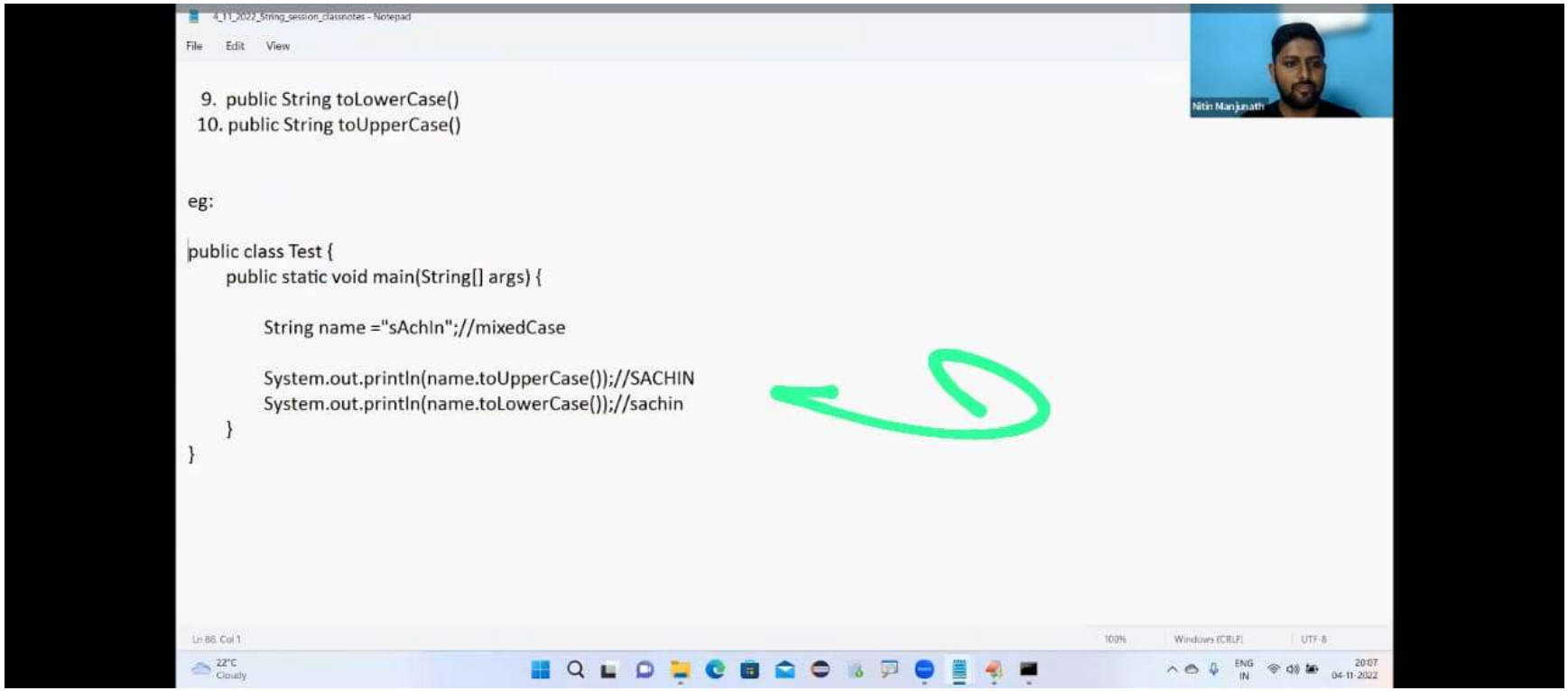
4_11_2022_String_session_classnotes - Notepad
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9. public String toLowerCase()
10. public String toUpperCase()
eg:
public class Test {
public static void main(String[] args) {
String name ="sAchIn";//mixedCase
System.out.println(name.toUpperCase());//SACHIN
System.out.println(name.toLowerCase());//sachin
}
}
Ln 86, Col 1
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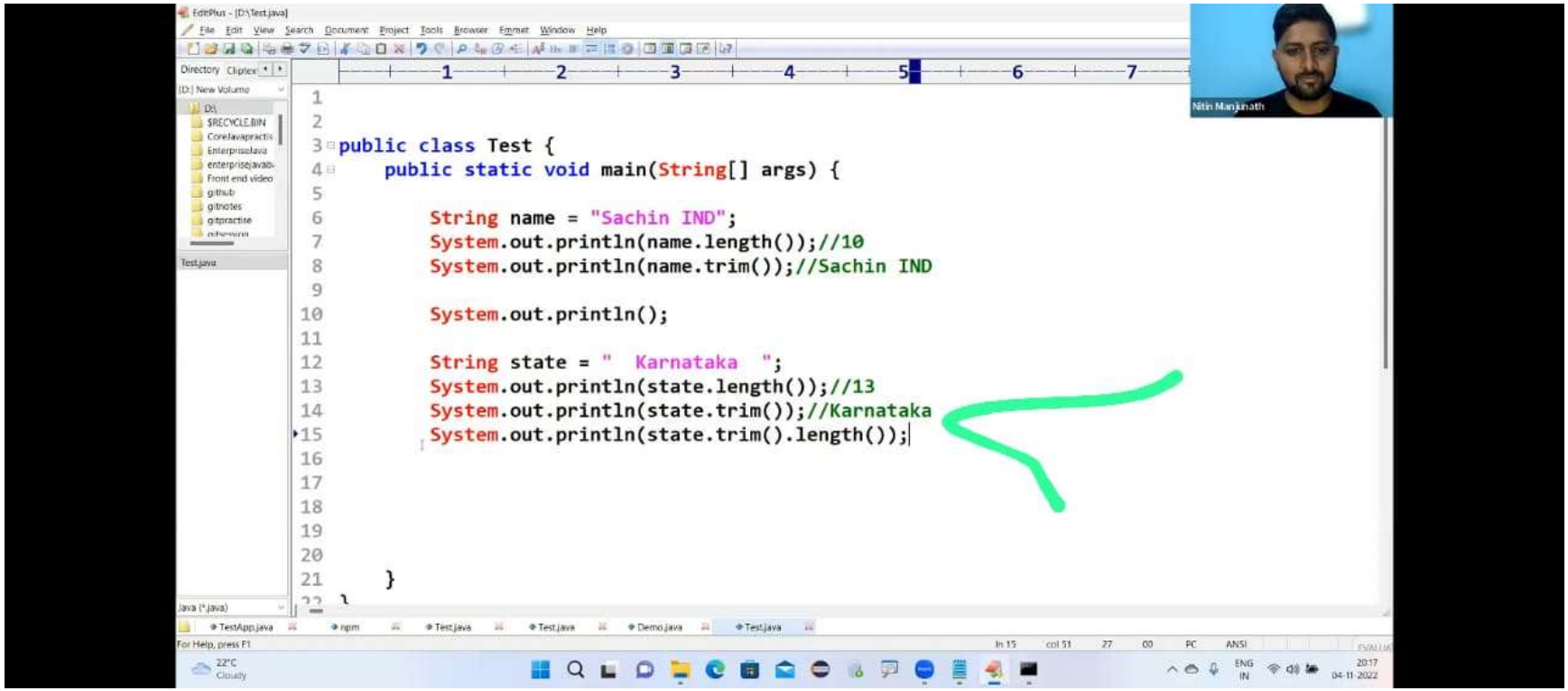
EditPlus - [D:\Test.java]
File Edit View Search Document Project Tools Browser Format Window Help
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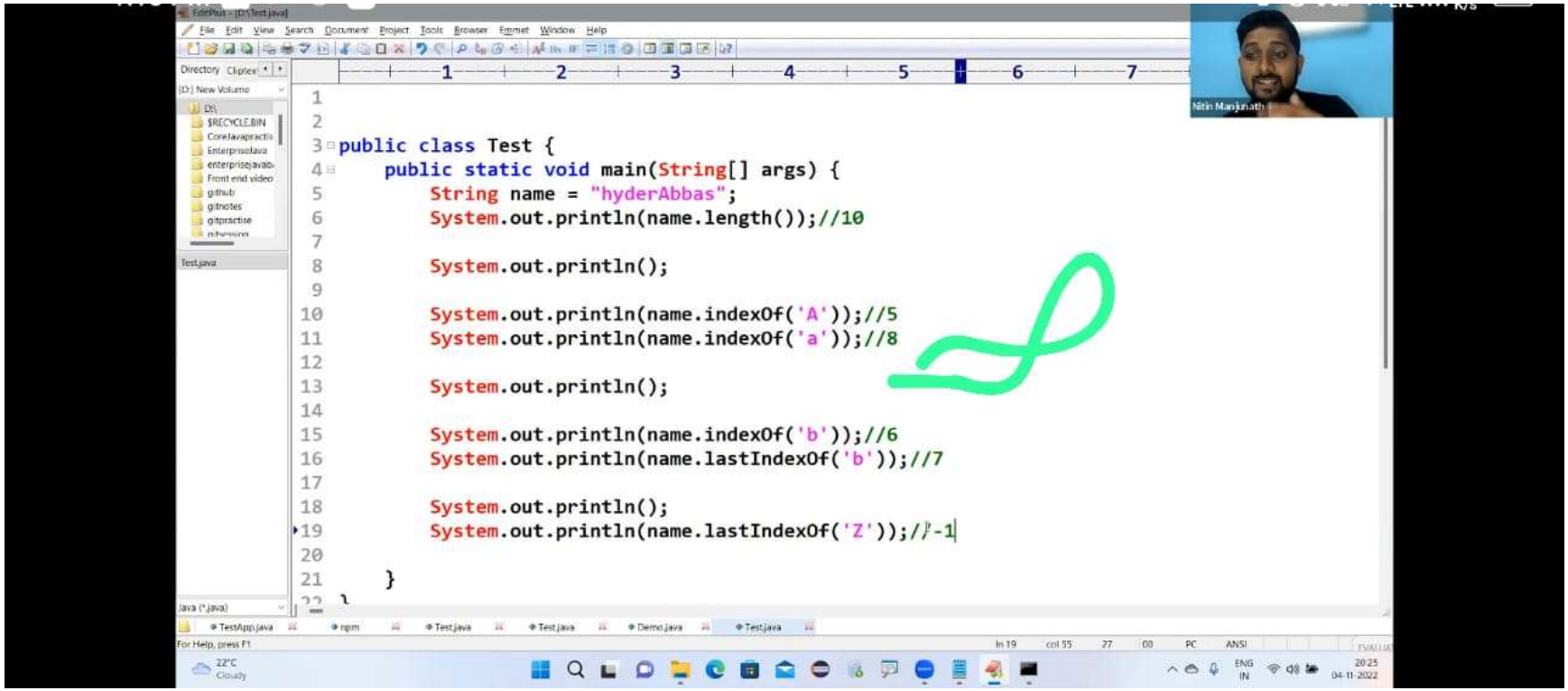
public class Test {
public static void main(String[] args) {
String name = "Sachin IND";
System.out.println(name.length());//10
System.out.println(name.trim());//Sachin IND
System.out.println();
String state = " Karnataka ";
System.out.println(state.length());//13
System.out.println(state.trim());//Karnataka
System.out.println(state.trim().length());
}
}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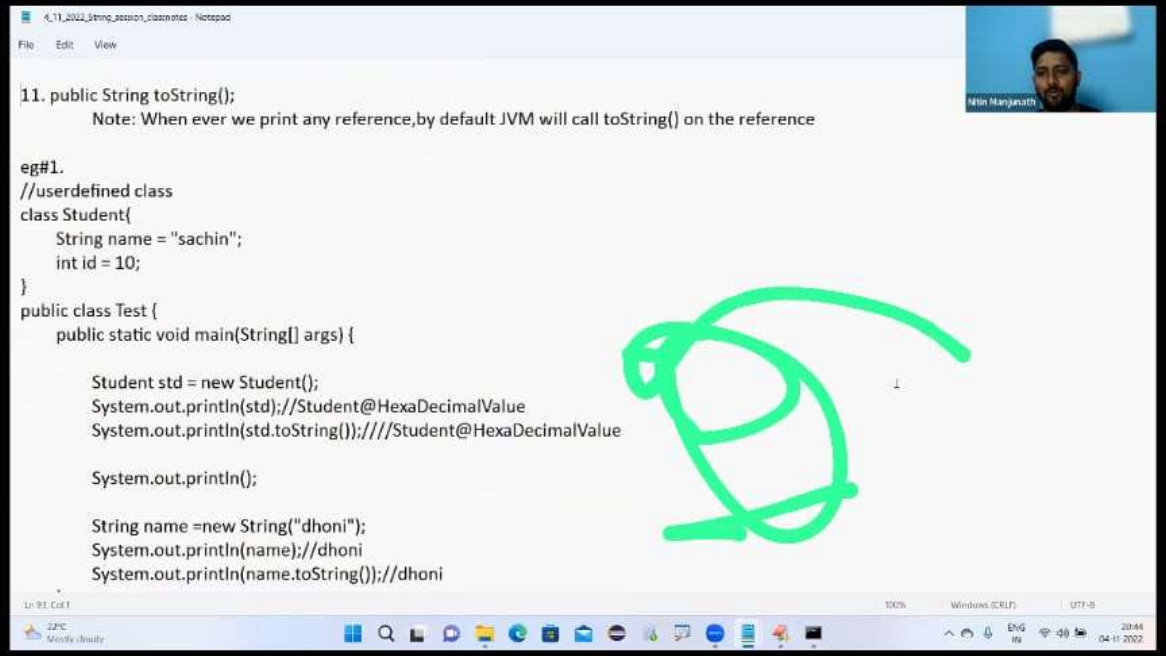
public class Test {
public static void main(String[] args) {
String name = "hyderAbbas";
System.out.println(name.length());//10
System.out.println();
System.out.println(name.indexOf('A'));//5
System.out.println(name.indexOf('a'));//8
System.out.println();
System.out.println(name.indexOf('b'));//6
System.out.println(name.lastIndexOf('b'));//7
System.out.println();
System.out.println(name.lastIndexOf('Z'));//-1
}
}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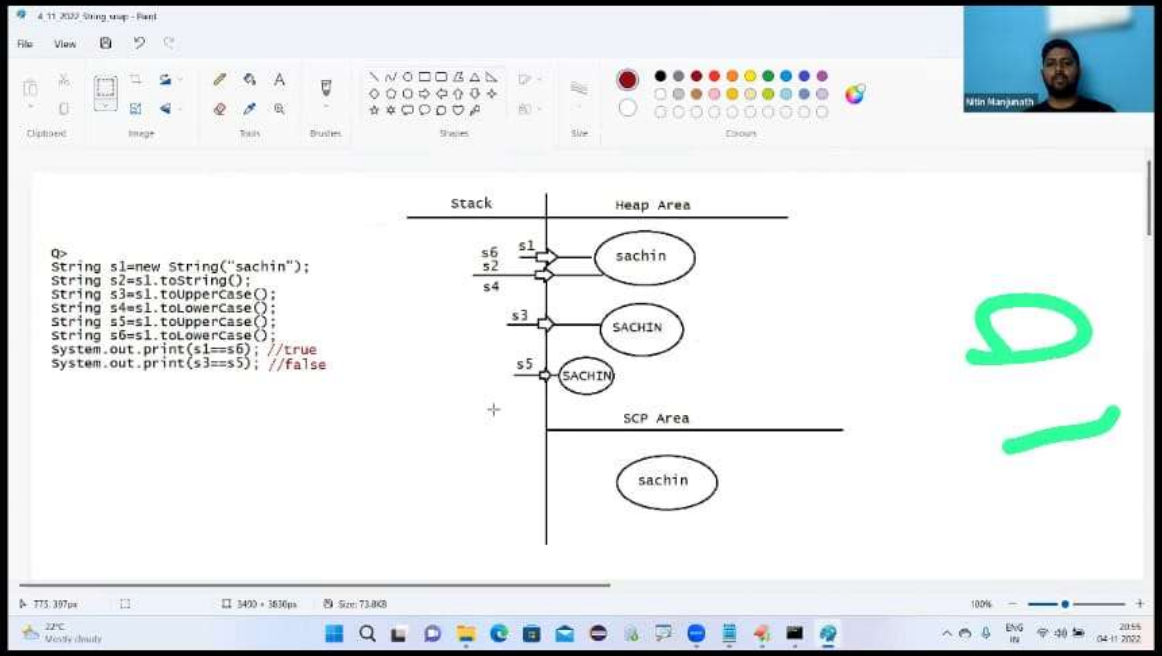
11. public String toString();
Note: When ever we print any reference,by default JVM will call toString() on the reference
eg#1.
//userdefined class
class Student{
String name = "sachin";
int id = 10;
}
public class Test {
public static void main(String[] args) {
Student std = new Student();
System.out.println(std);//Student@HexaDecimalValue
System.out.println(std.toString());////Student@HexaDecimalValue
System.out.println();
String name =new String("dhoni");
System.out.println(name);//dhoni
System.out.println(name.toString());//dhoni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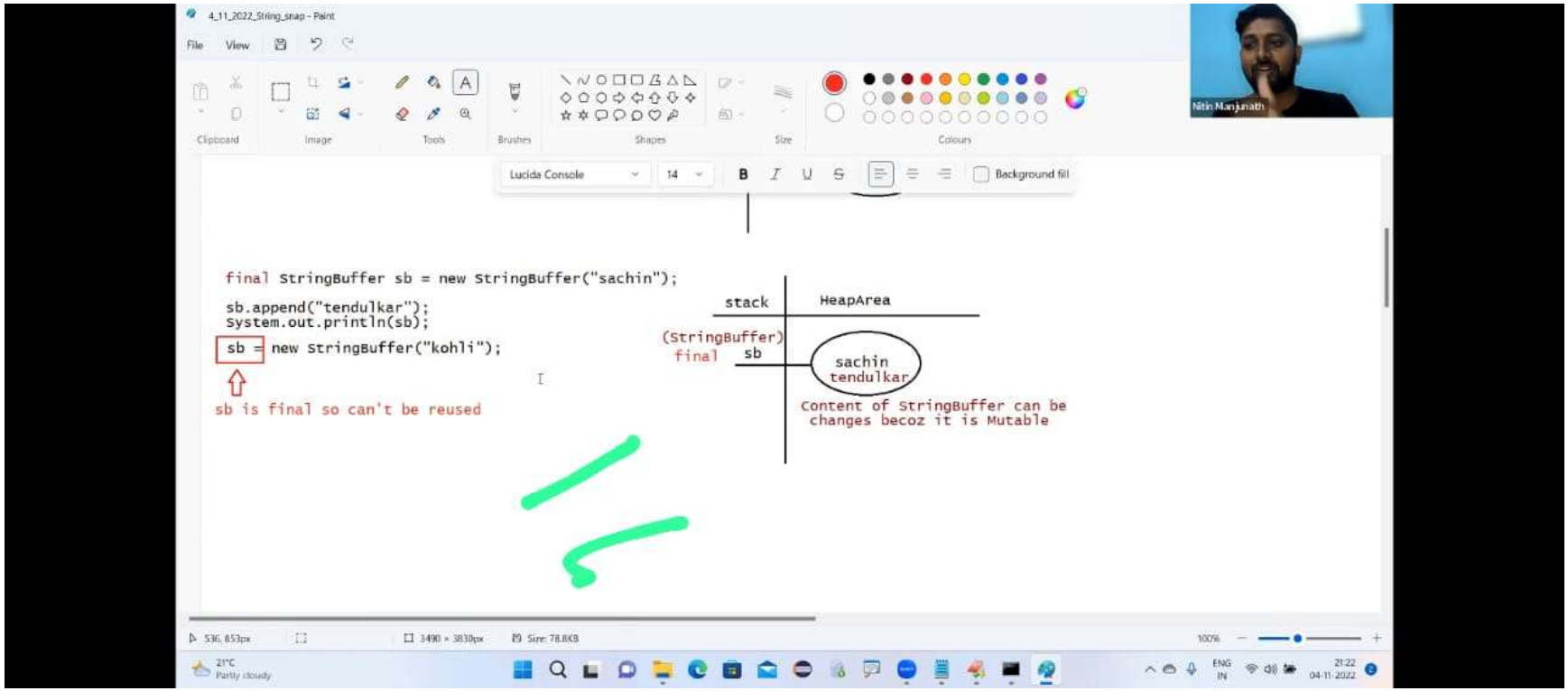
Q>
String s1=new String("sachin");
String s2=s1.toString();
String s3=s1.toUpperCase();
String s4=s1.toLowerCase();
String s5=s1.toUpperCase();
String s6=s1.toLowerCase();
System.out.print(s1==s6); //true
System.out.print(s3==s5); //false
Stack
Heap Area
s6
s1
s2
s4
sachin
s3
SACHIN
s5
SACHIN
SCP Area
sachin


4_11_2022_String_snap - Paint
File
View
Clipboard
Image
Tools
Brushes
Shapes
Size
Colours
Nitin Manjunath
Lucida Console
14
Background fill
final StringBuffer sb = new StringBuffer("sachin");
sb.append("tendulkar");
System.out.println(sb);
sb = new StringBuffer("kohli");
sb is final so can't be reused
stack
HeapArea
(StringBuffer)
final
sb
sachin
tendulkar
Content of StringBuffer can be
changes becoz it is Mutable
536, 853px
3490 × 3830px
Size: 78.8KB
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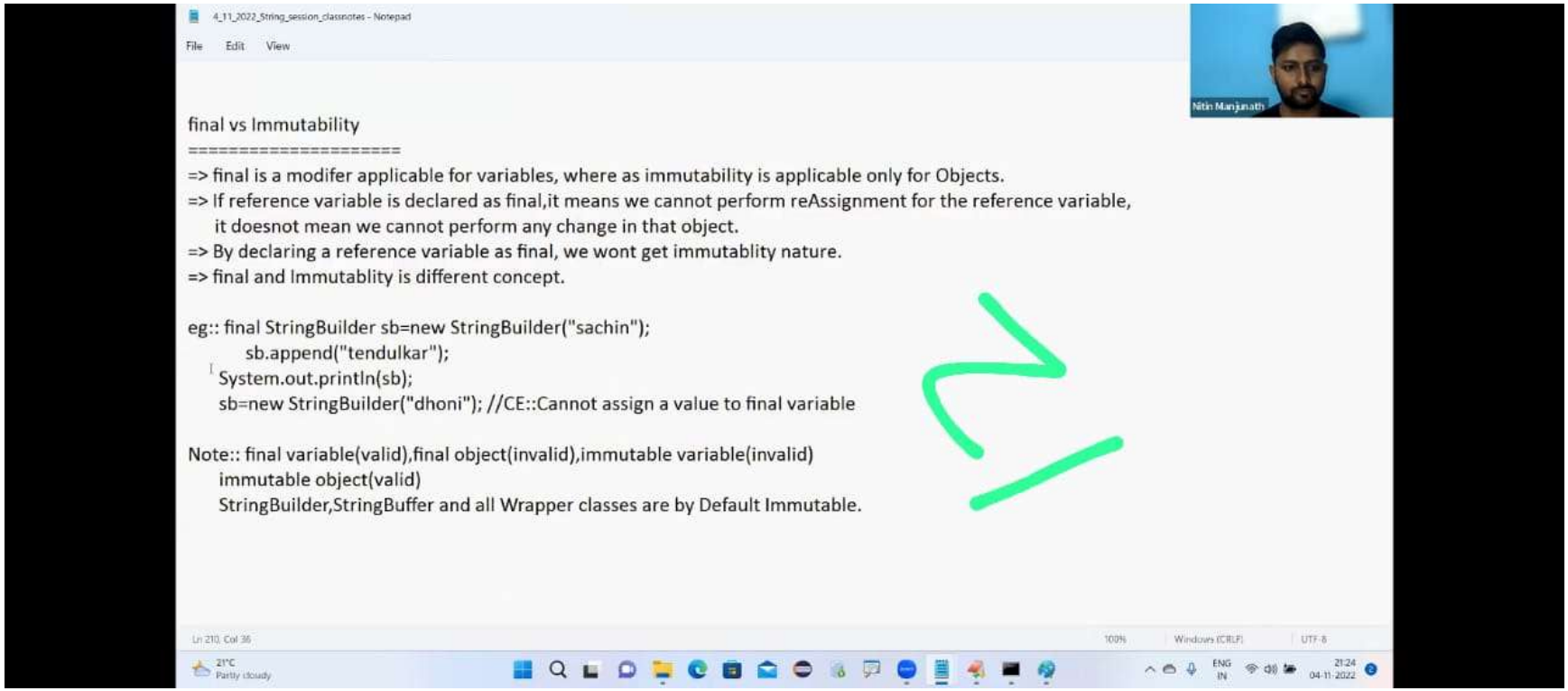
4_11_2022_String_session_classnotes - Notepad
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final vs Immutability
=> final is a modifer applicable for variables, where as immutability is applicable only for Objects.
=> If reference variable is declared as final,it means we cannot perform reAssignment for the reference variable,
it doesnot mean we cannot perform any change in that object.
=> By declaring a reference variable as final, we wont get immutablity nature.
=> final and Immutablity is different concept.
eg:: final StringBuilder sb=new StringBuilder("sachin");
sb.append("tendulkar");
System.out.println(sb);
sb=new StringBuilder("dhoni"); //CE::Cannot assign a value to final variable
Note:: final variable(valid),final object(invalid),immutable variable(invalid)
immutable object(valid)
StringBuilder,StringBuffer and all Wrapper classes are by Default Immutable.
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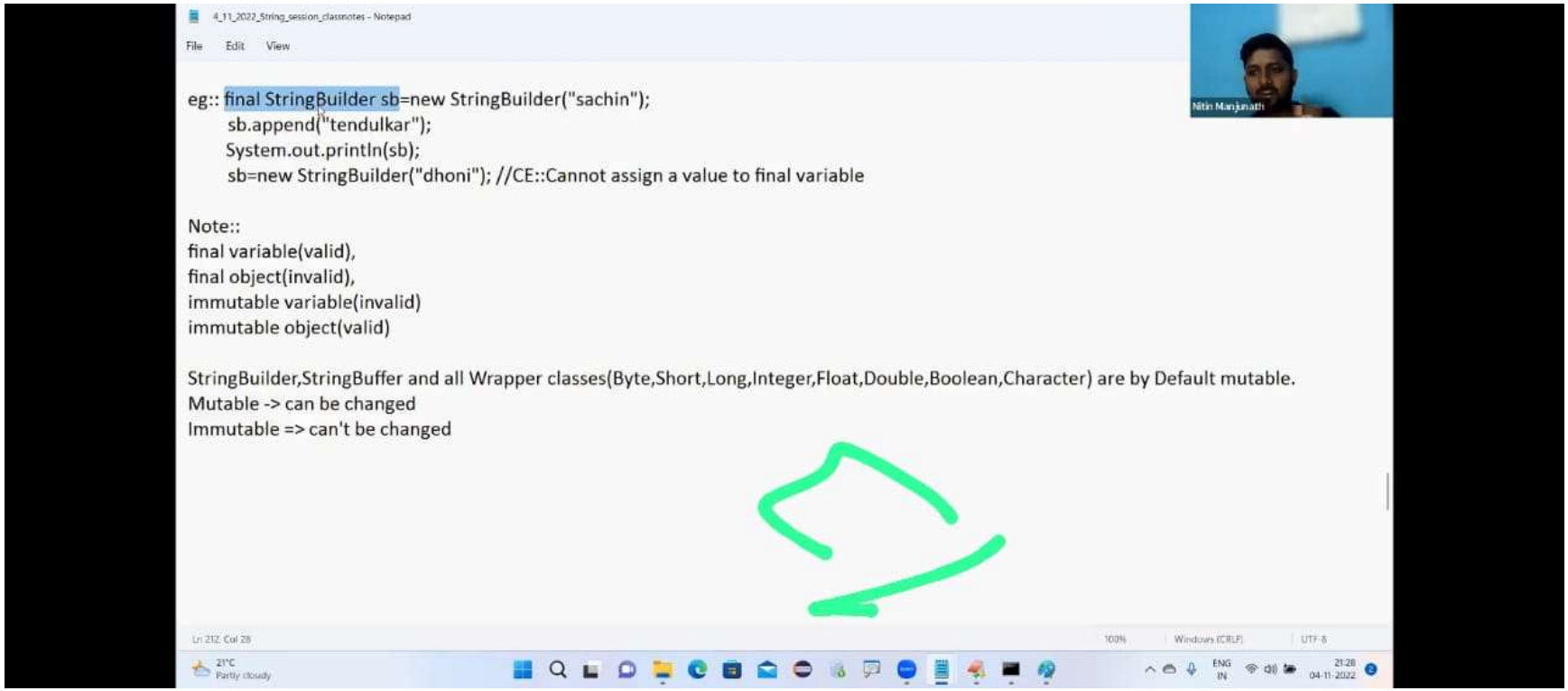
4_11_2022_String_session_classnotes - Notepad
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eg:: final StringBuilder sb=new StringBuilder("sachin");
sb.append("tendulkar");
System.out.println(sb);
sb=new StringBuilder("dhoni"); //CE::Cannot assign a value to final variable
Note::
final variable(valid),
final object(invalid),
immutable variable(invalid)
immutable object(valid)
StringBuilder,StringBuffer and all Wrapper classes(Byte,Short,Long,Integer,Float,Double,Boolean,Character) are by Default mutable.
Mutable -> can be changed
Immutable => can't be changed
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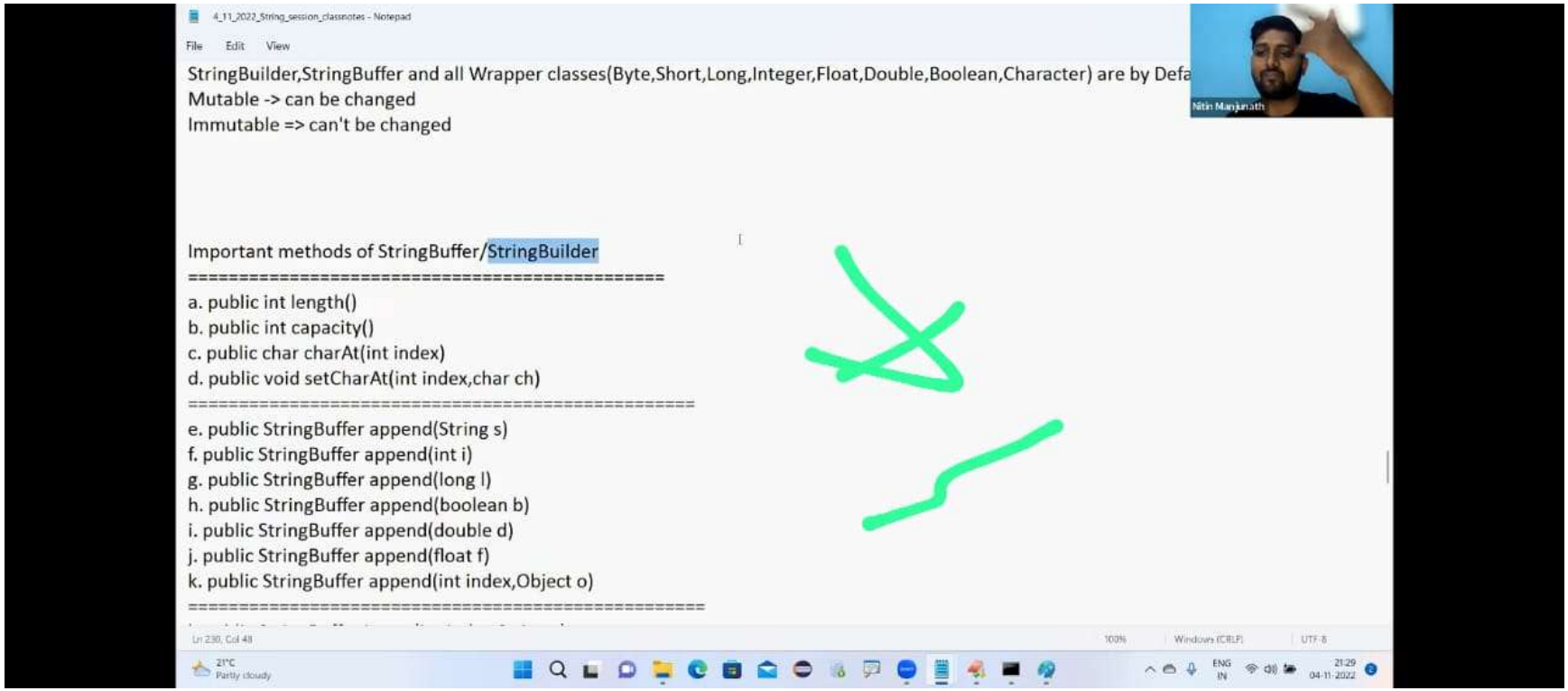
4_11_2022_String_session_classnotes - Notepad
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StringBuilder,StringBuffer and all Wrapper classes(Byte,Short,Long,Integer,Float,Double,Boolean,Character) are by Defa
Mutable -> can be changed
Immutable => can't be changed
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Important methods of StringBuffer/StringBuilder
a. public int length()
b. public int capacity()
c. public char charAt(int index)
d. public void setCharAt(int index,char ch)
e. public StringBuffer append(String s)
f. public StringBuffer append(int i)
g. public StringBuffer append(long l)
h. public StringBuffer append(boolean b)
i. public StringBuffer append(double d)
j. public StringBuffer append(float f)
k. public StringBuffer append(int index,Object o)
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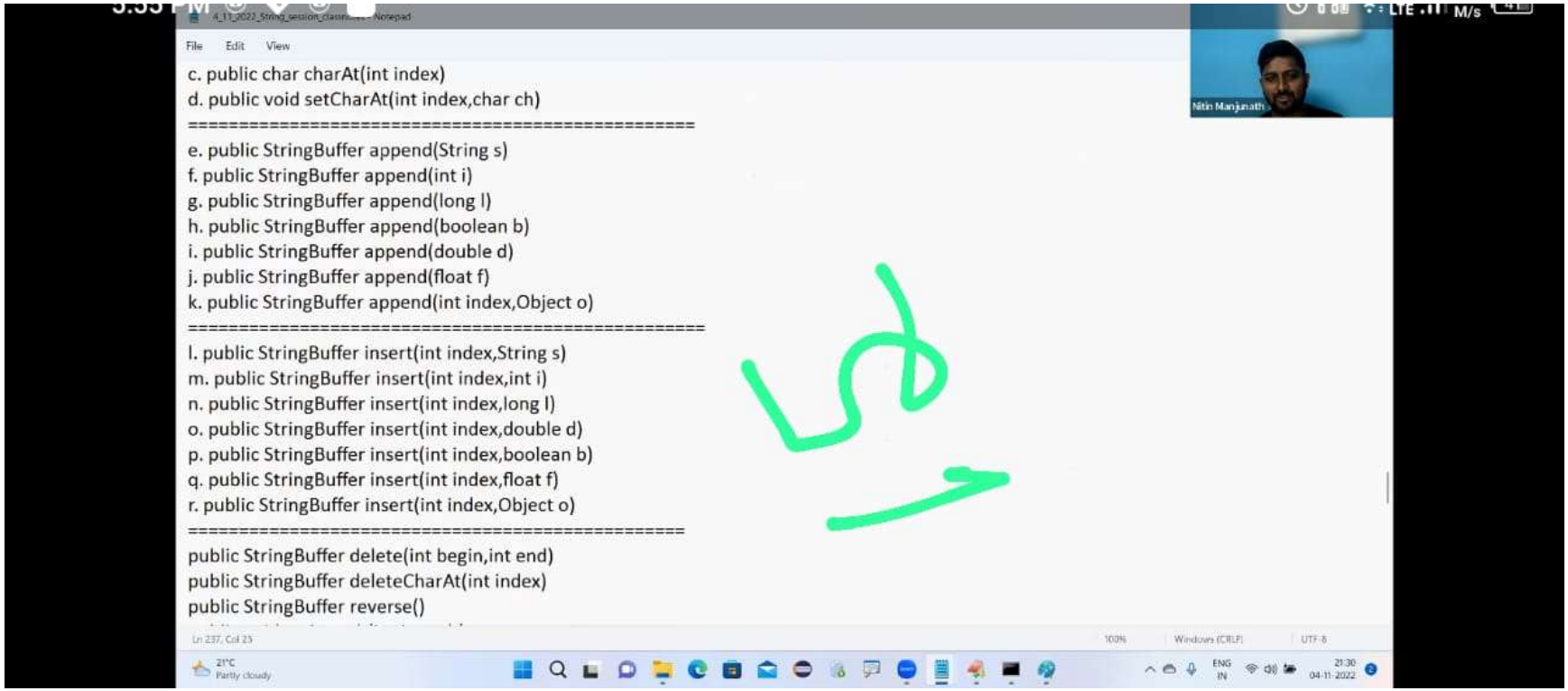
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c. public char charAt(int index)
d. public void setCharAt(int index,char ch)
==========
e. public StringBuffer append(String s)
f. public StringBuffer append(int i)
g. public StringBuffer append(long l)
h. public StringBuffer append(boolean b)
i. public StringBuffer append(double d)
j. public StringBuffer append(float f)
k. public StringBuffer append(int index,Object o)
==========
l. public StringBuffer insert(int index,String s)
m. public StringBuffer insert(int index,int i)
n. public StringBuffer insert(int index,long l)
o. public StringBuffer insert(int index,double d)
p. public StringBuffer insert(int index,boolean b)
q. public StringBuffer insert(int index,float f)
r. public StringBuffer insert(int index,Object o)
==========
public StringBuffer delete(int begin,int end)
public StringBuffer deleteCharAt(int index)
public StringBuffer reverse()
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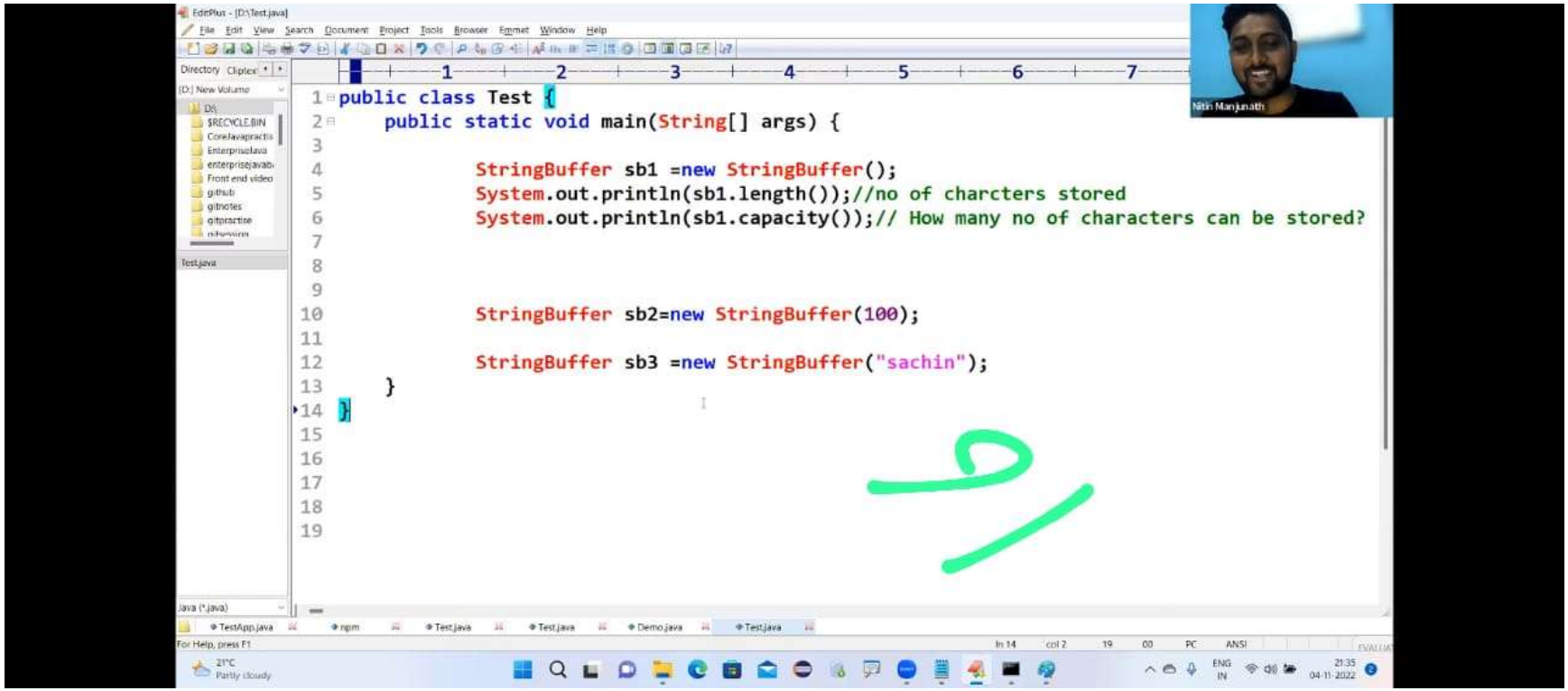
EditPlus - [D:\Test.java]
File Edit View Search Document Project Tools Browser Format Window Help
Nitin Manjunath
1 public class Test {
2 public static void main(String[] args) {
3
4 StringBuffer sb1 =new StringBuffer();
5 System.out.println(sb1.length());//no of charcters stored
6 System.out.println(sb1.capacity());// How many no of characters can be stored?
7
8
9
10 StringBuffer sb2=new StringBuffer(100);
11
12 StringBuffer sb3 =new StringBuffer("sachin");
13 }
14 }
15
16
17
18
19
TestApp.java
Test.java
Demo.java
For Help, press F1
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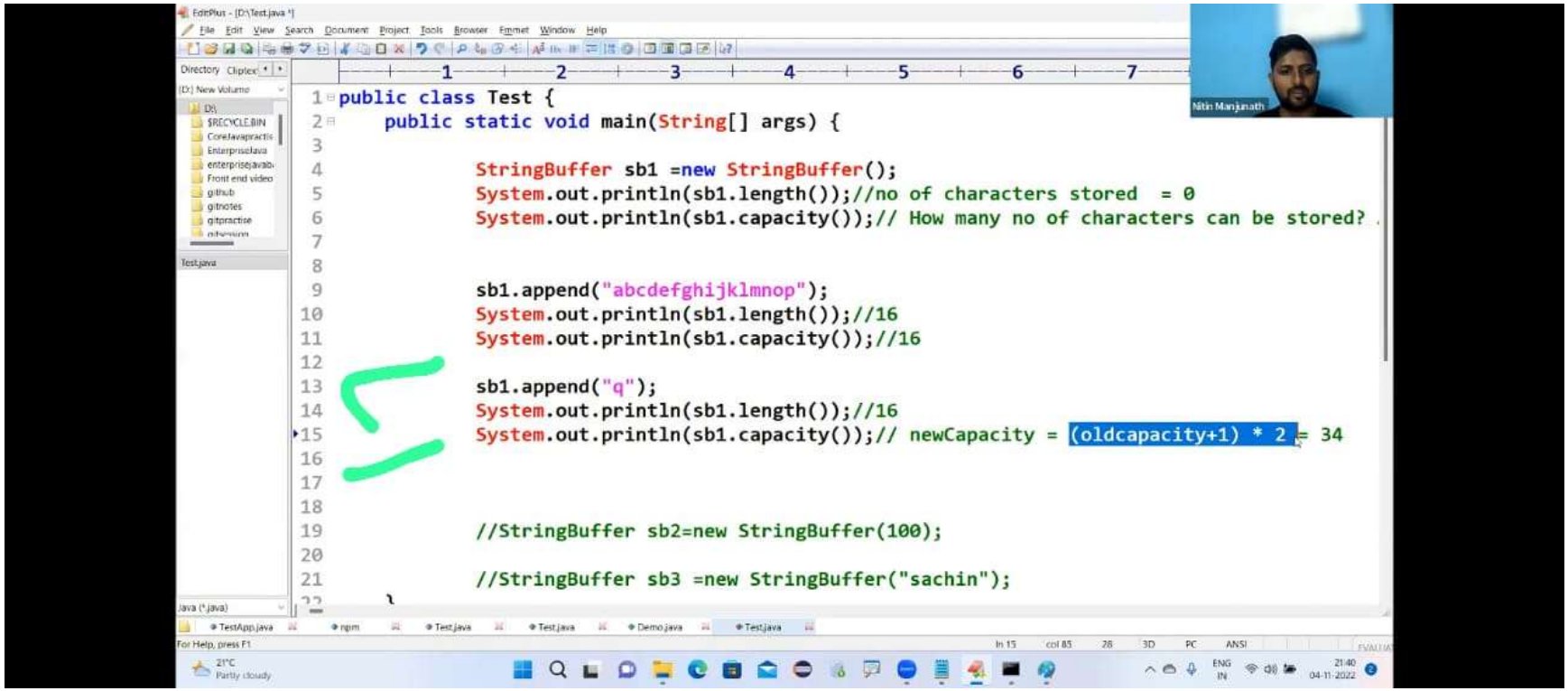
04-11-2022


EditPlus - [D:\Test.java *]
File Edit View Search Document Project Tools Browser Frmmet Window Help
Nitin Manjunath
1 public class Test {
2 public static void main(String[] args) {
3
4 StringBuffer sb1 =new StringBuffer();
5 System.out.println(sb1.length());//no of characters stored = 0
6 System.out.println(sb1.capacity());// How many no of characters can be stored?
7
8
9 sb1.append("abcdefghijklmnop");
10 System.out.println(sb1.length());//16
11 System.out.println(sb1.capacity());//16
12
13 sb1.append("q");
14 System.out.println(sb1.length());//16
15 System.out.println(sb1.capacity());// newCapacity = (oldcapacity+1) * 2 = 34
16
17
18
19 //StringBuffer sb2=new StringBuffer(100);
20
21 //StringBuffer sb3 =new StringBuffer("sachin");
22 }
TestApp.java
rgm
Test.java
Test.java
Demo.java
Test.java
For Help, press F1
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4_11_2022_String_session_classnotes - Notepad

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2. To handle this type of requirement, we have StringBuffer/StringBuilder concept

Constructors of StringBuffer

==========

1.StringBuffer sb=new StringBuffer();

creates a empty StringBuffer object with default intital capacity of "16".

Once StringBuffer reaches its maximum capacity a new StringBuffer Object will be created

new capacity = (currentcapacity+1) * 2;

```
eg1::StringBuffer sb = new StringBuffer();
   System.out.println(sb.capacity());//16
   sb.append("abcdefghijklmnop");
   System.out.println(sb.capacity());//16
   sb.append('q');
   System.out.println(sb.capacity());//34
```

Important methods of StringBuffer/StringBuilder

==========

a. public int length()

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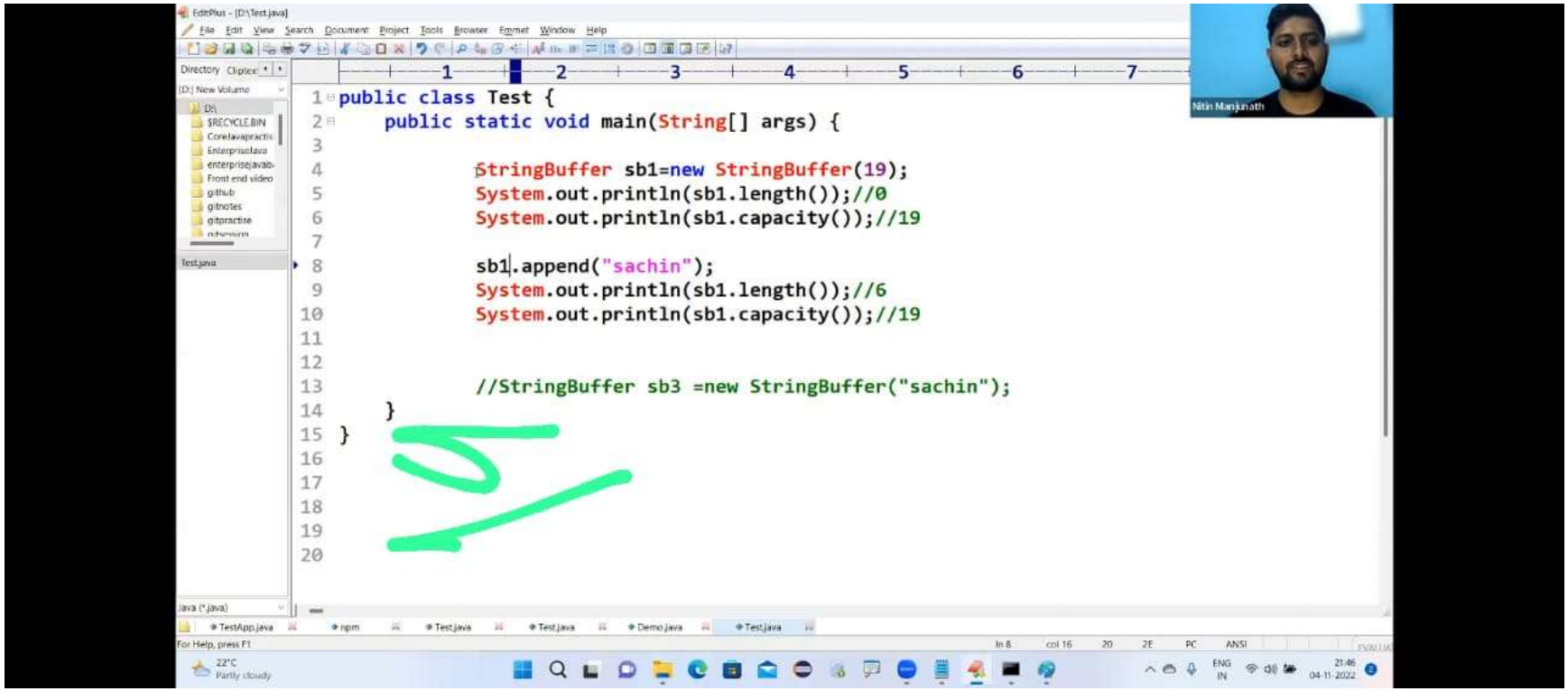
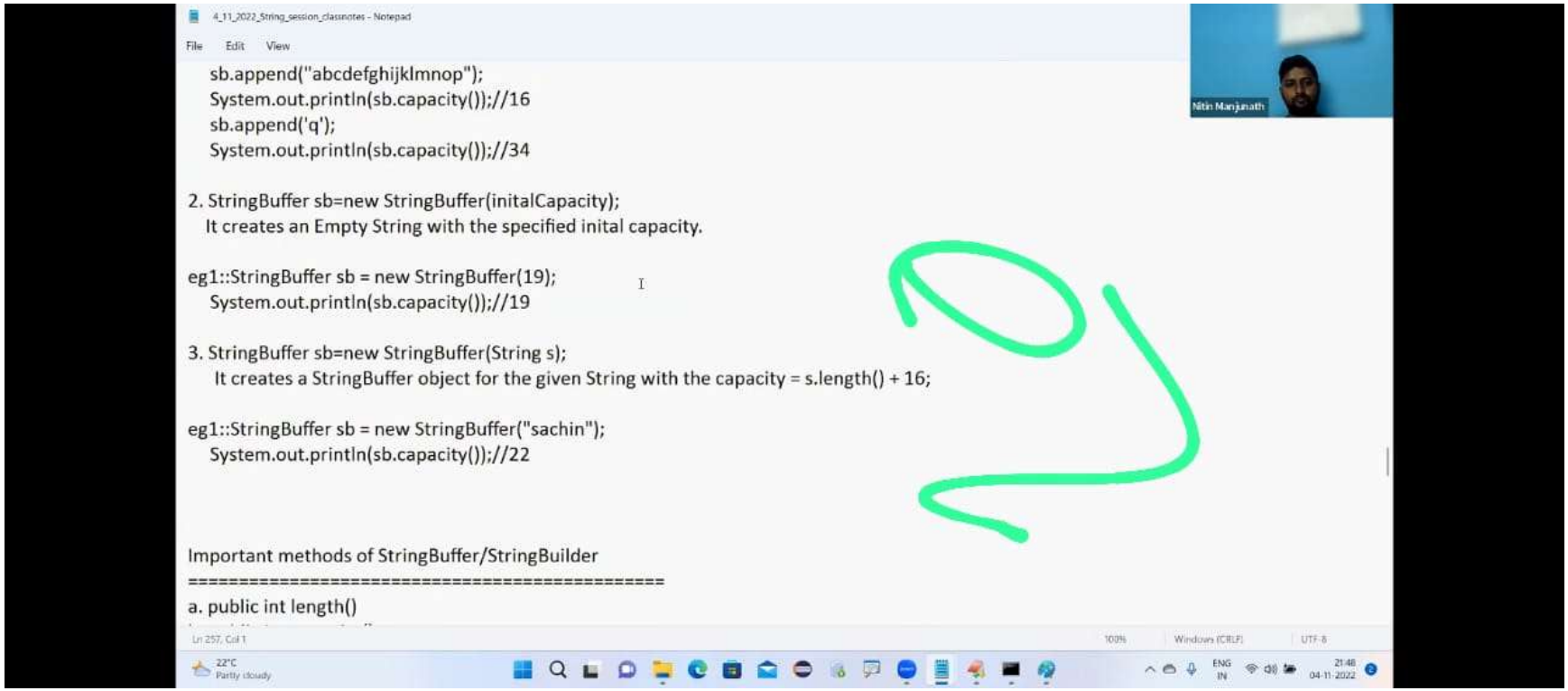

EditPlus - [D:\Test.java]
File Edit View Search Document Project Tools Browser Format Window Help
Nitin Manjunath
1 public class Test {
2 public static void main(String[] args) {
3
4 StringBuffer sb1=new StringBuffer(19);
5 System.out.println(sb1.length());//0
6 System.out.println(sb1.capacity());//19
7
8 sb1.append("sachin");
9 System.out.println(sb1.length());//6
10 System.out.println(sb1.capacity());//19
11
12
13 //StringBuffer sb3 =new StringBuffer("sachin");
14 }
15 }
16
17
18
19
20


4_11_2022_String_session_classnotes - Notepad
File Edit View
sb.append("abcdefghijklmnop");
System.out.println(sb.capacity());//16
sb.append('q');
System.out.println(sb.capacity());//34
2. StringBuffer sb=new StringBuffer(initalCapacity);
It creates an Empty String with the specified inital capacity.
eg1::StringBuffer sb = new StringBuffer(19);
System.out.println(sb.capacity());//19
3. StringBuffer sb=new StringBuffer(String s);
It creates a StringBuffer object for the given String with the capacity = s.length() + 16;
eg1::StringBuffer sb = new StringBuffer("sachin");
System.out.println(sb.capacity());//22
Important methods of StringBuffer/StringBuilder
a. public int length()
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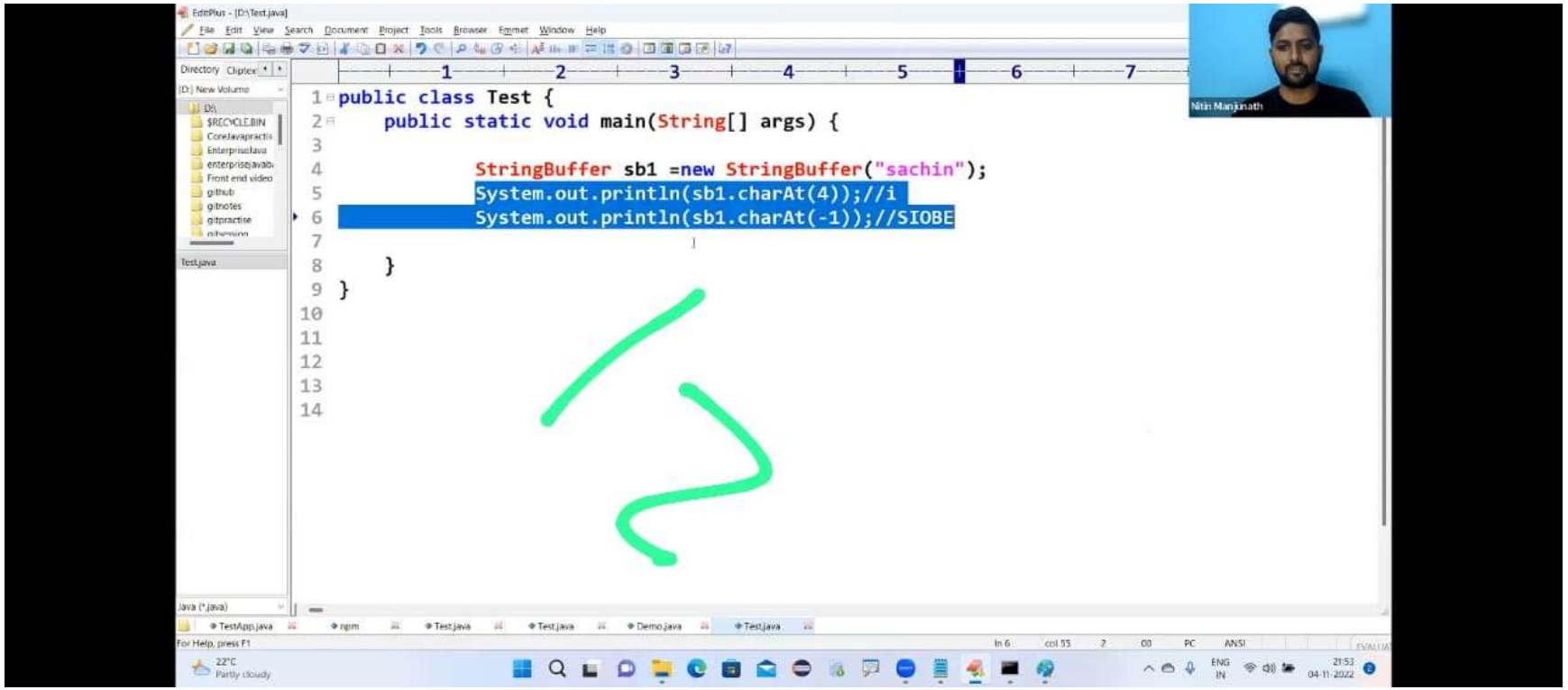
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public class Test {
public static void main(String[] args) {
StringBuffer sb1 =new StringBuffer("sachin");
System.out.println(sb1.charAt(4));//i
System.out.println(sb1.charAt(-1));//SIOBE
}
}
Test.java
TestApp.java
Test.java
Demo.java
For Help, press F1
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ENG
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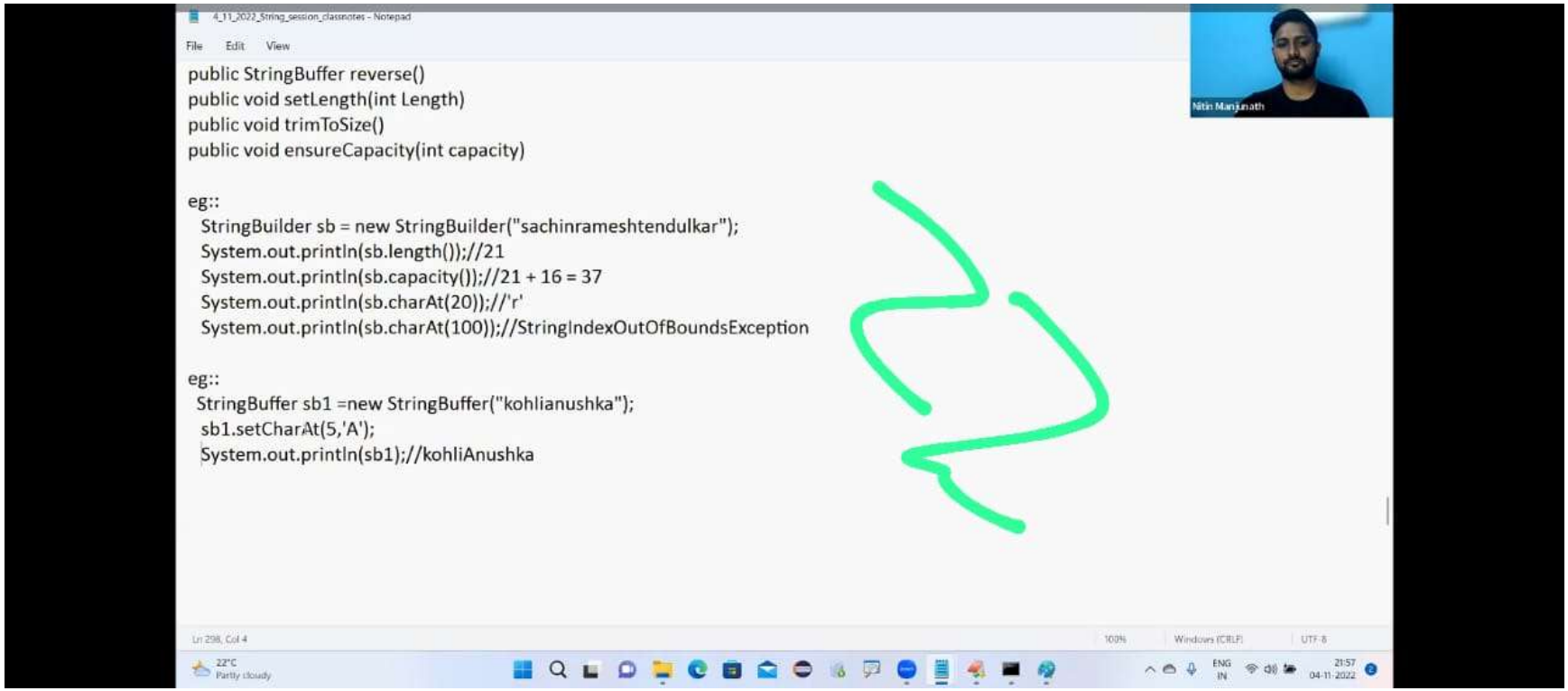
04-11-2022


4_11_2022_String_session_classnotes - Notepad
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public StringBuffer reverse()
public void setLength(int Length)
public void trimToSize()
public void ensureCapacity(int capacity)
eg::
StringBuilder sb = new StringBuilder("sachinrameshtendulkar");
System.out.println(sb.length());//21
System.out.println(sb.capacity());//21 + 16 = 37
System.out.println(sb.charAt(20));//'r'
System.out.println(sb.charAt(100));//StringIndexOutOfBoundsException
eg::
StringBuffer sb1 =new StringBuffer("kohlianushka");
sb1.setCharAt(5,'A');
System.out.println(sb1);//kohliAnushka
Nitin Manjunath
Ln 298, Col 4
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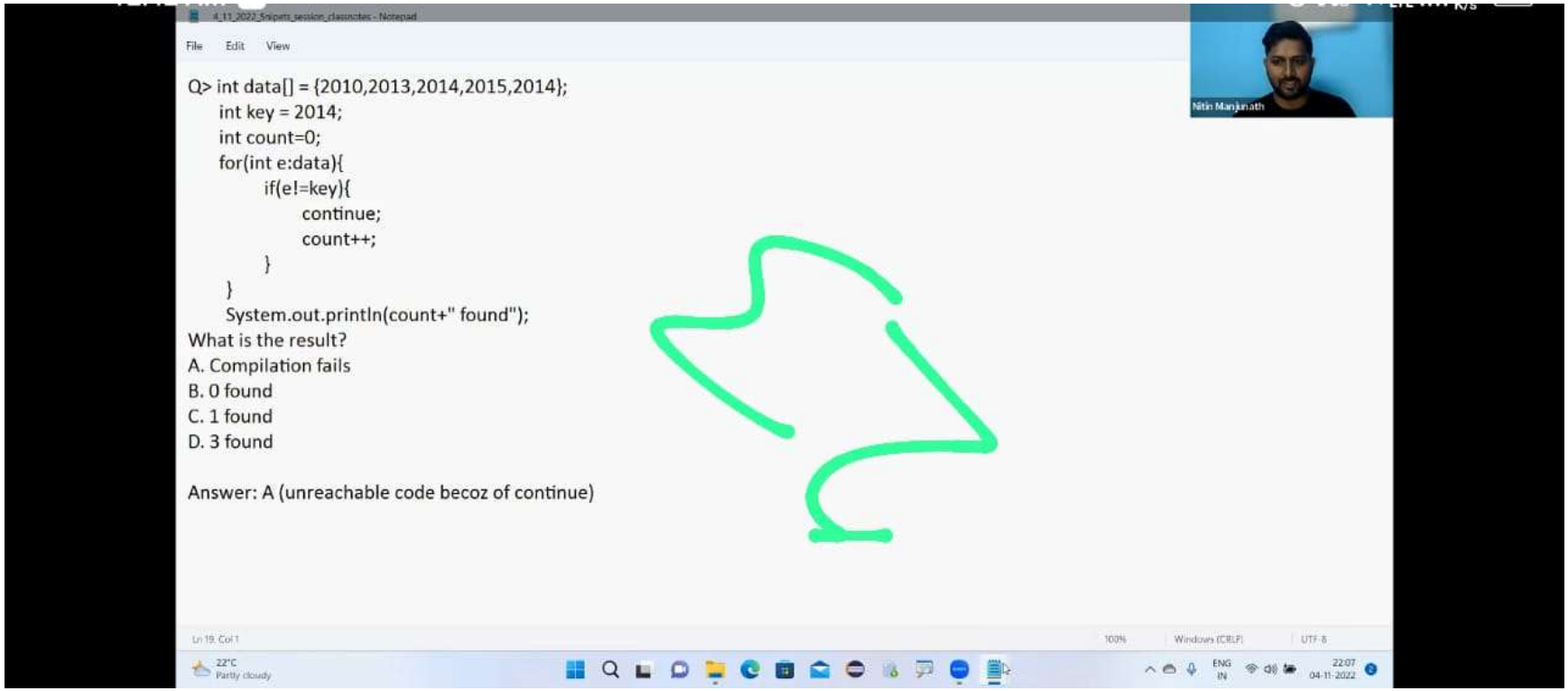
4_13_2022_Snipets_session_classnotes - Notepad
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Q> int data[] = {2010,2013,2014,2015,2014};
int key = 2014;
int count=0;
for(int e:data){
if(e!=key){
continue;
count++;
}
}
System.out.println(count+" found");
What is the result?
A. Compilation fails
B. 0 found
C. 1 found
D. 3 found
Answer: A (unreachable code becoz of continue)
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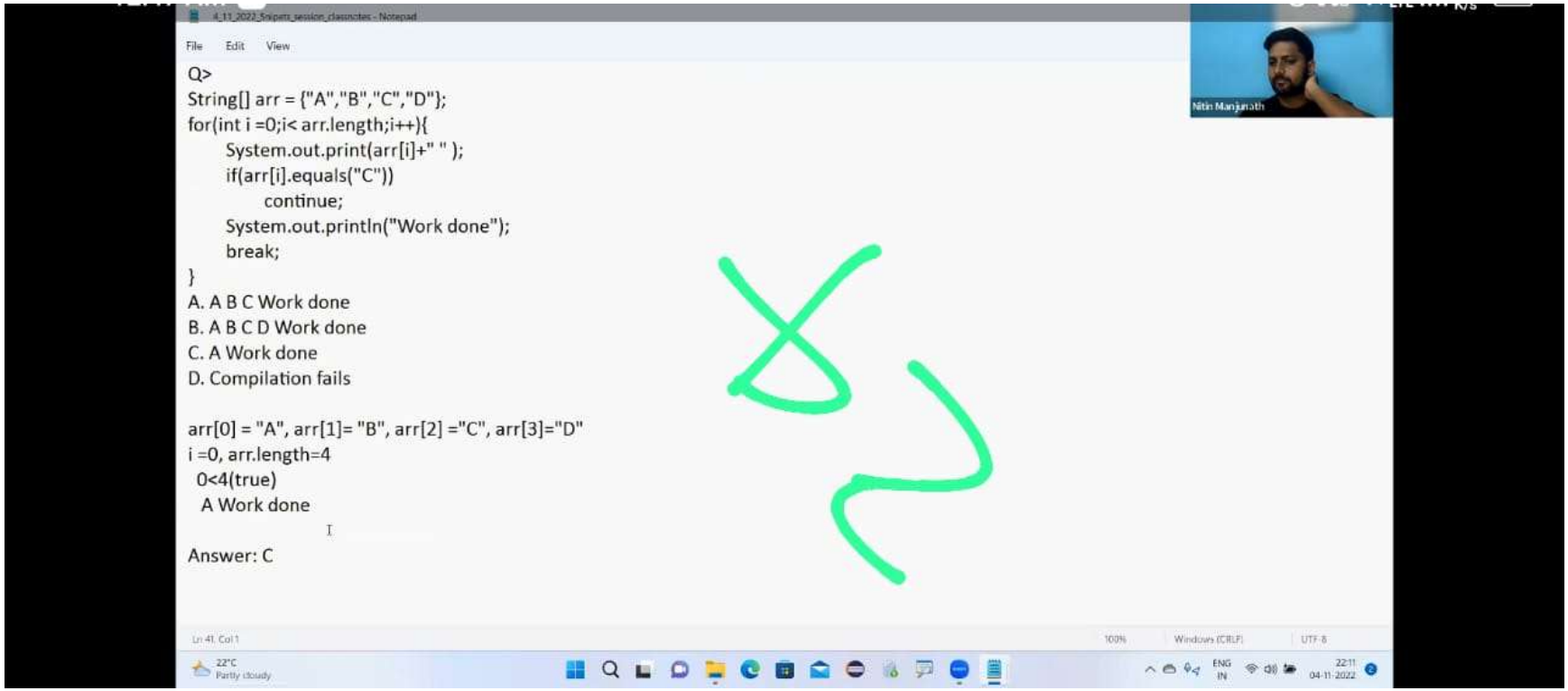
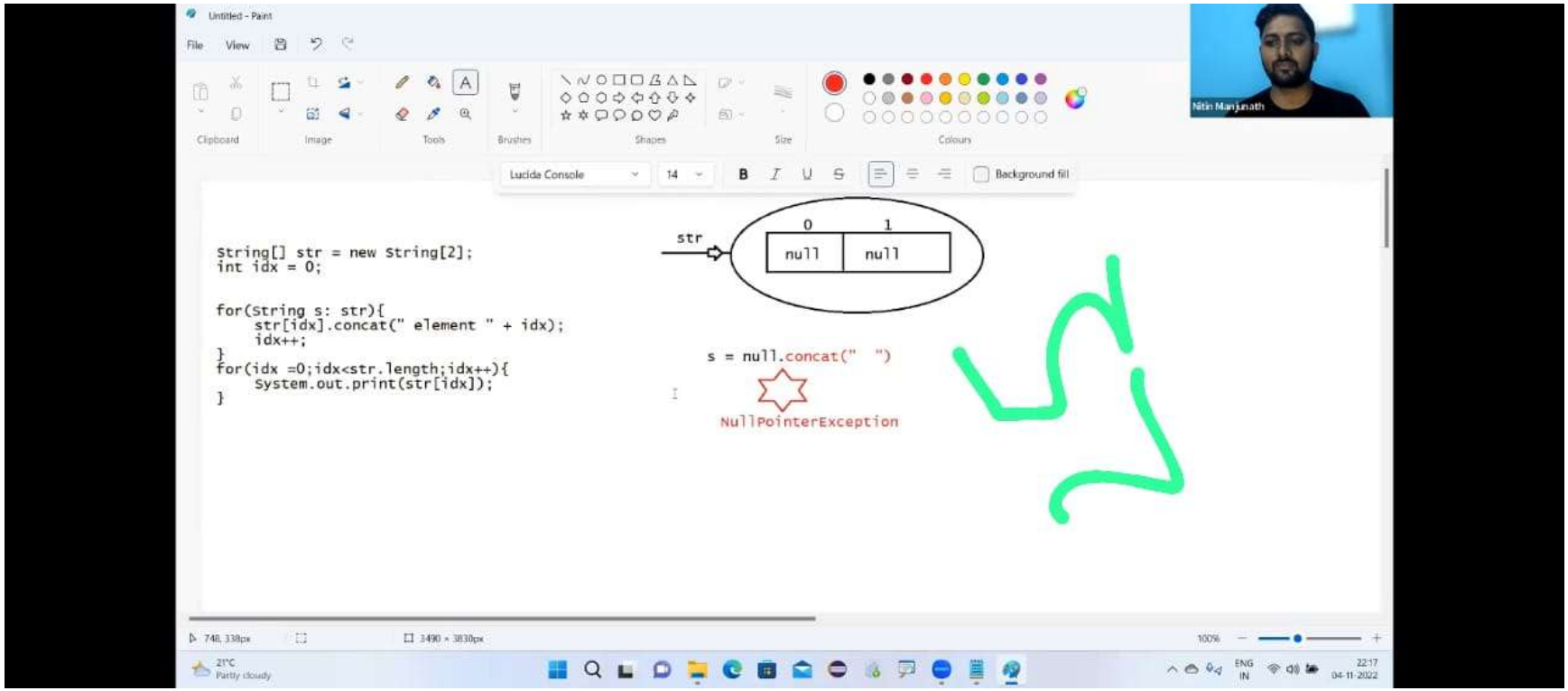
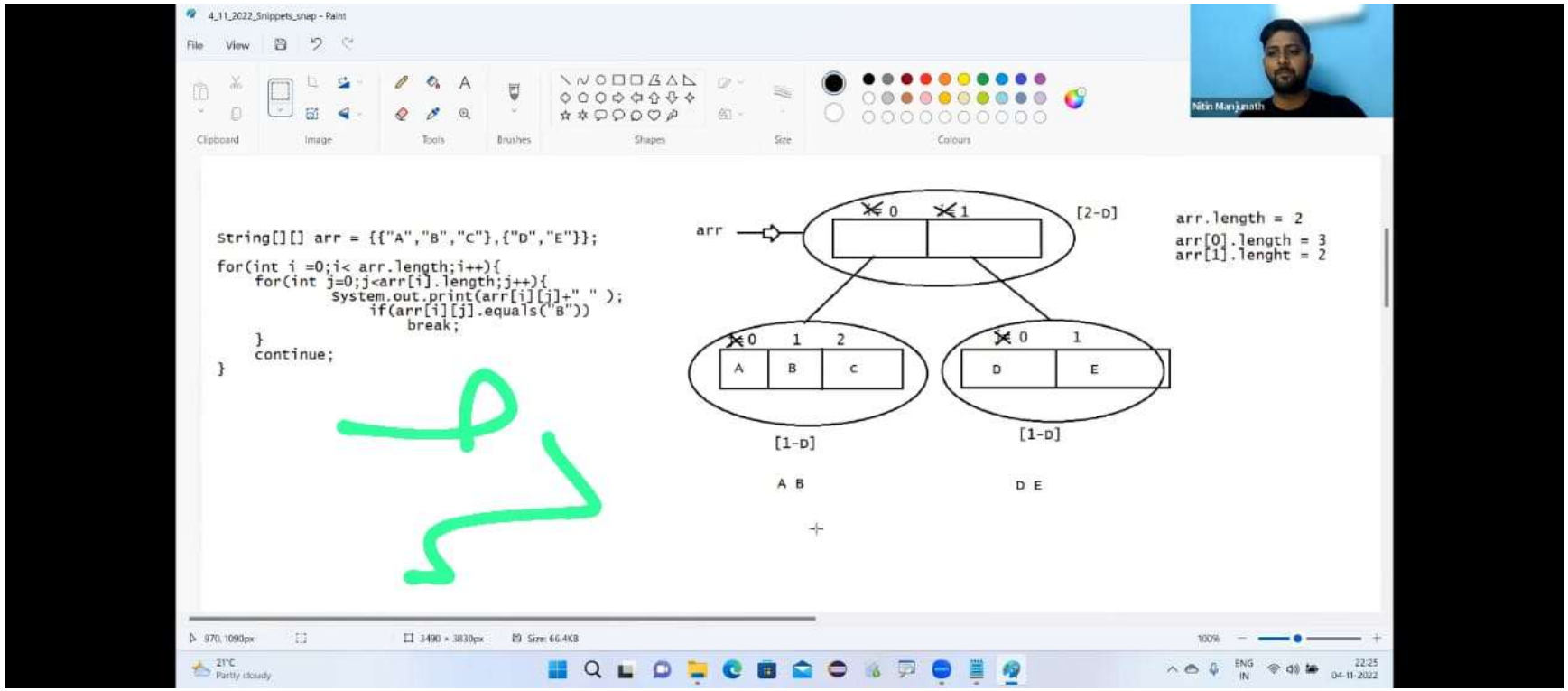
22:07
04-11-2022


4_11_2022_Snipets_session_classnotes - Notepad
File Edit View
Q>
String[] arr = {"A","B","C","D"};
for(int i =0;i< arr.length;i++){
System.out.print(arr[i]+" ");
if(arr[i].equals("C"))
continue;
System.out.println("Work done");
break;
}
A. A B C Work done
B. A B C D Work done
C. A Work done
D. Compilation fails
arr[0] = "A", arr[1]= "B", arr[2] ="C", arr[3]="D"
i =0, arr.length=4
0<4(true)
A Work done
Answer: C
Nitin Manjunath
Ln 41, Col 1
100%
Windows (CRLF)
UTF-8
22°C
Partly cloudy
ENG
IN
22:11
04-11-2022


Untitled - Paint
File
View
Clipboard
Image
Tools
Brushes
Shapes
Size
Colours
Nitin Manjunath
Lucida Console
14
Background fill
String[] str = new String[2];
int idx = 0;
for(String s: str){
str[idx].concat(" element " + idx);
idx++;
}
for(idx =0;idx<str.length;idx++){
System.out.print(str[idx]);
}
str
0
1
null
null
s = null.concat(" ")
NullPointerException
748, 338px
3490 × 3830px
100%
21°C
Partly cloudy
ENG
IN
22:17
04-11-2022


4_11_2022_Snippets_snap - Paint
File
View
Clipboard
Image
Tools
Brushes
Shapes
Size
Colours
Nitin Manjunath
String[][] arr = {{"A","B","C"},{"D","E"}};
for(int i =0;i< arr.length;i++){
for(int j=0;j<arr[i].length;j++){
System.out.print(arr[i][j]+" ");
if(arr[i][j].equals("B"))
break;
}
continue;
}
arr
0
1
[2-D]
arr.length = 2
arr[0].length = 3
arr[1].lenght = 2
0
1
2
A
B
C
[1-D]
0
1
D
E
[1-D]
A B
D E
970, 1090px
3490 × 3830px
Size: 66.4KB
100%
21°C
Partly cloudy
ENG
IN
22:25
04-11-2022

4_11_2022_Snipets_session_classnotes - Notepad

File Edit View

Answer: D

Q>

```
String[][] arr = {{"A","B","C"},{"D","E"}};
for(int i =0;i< arr.length;i++){
    for(int j=0;j<arr[i].length;j++){
        System.out.print(arr[i][j]+" " );
            if(arr[i][j].equals("B"))
                break;
    }
    continue;
}
```

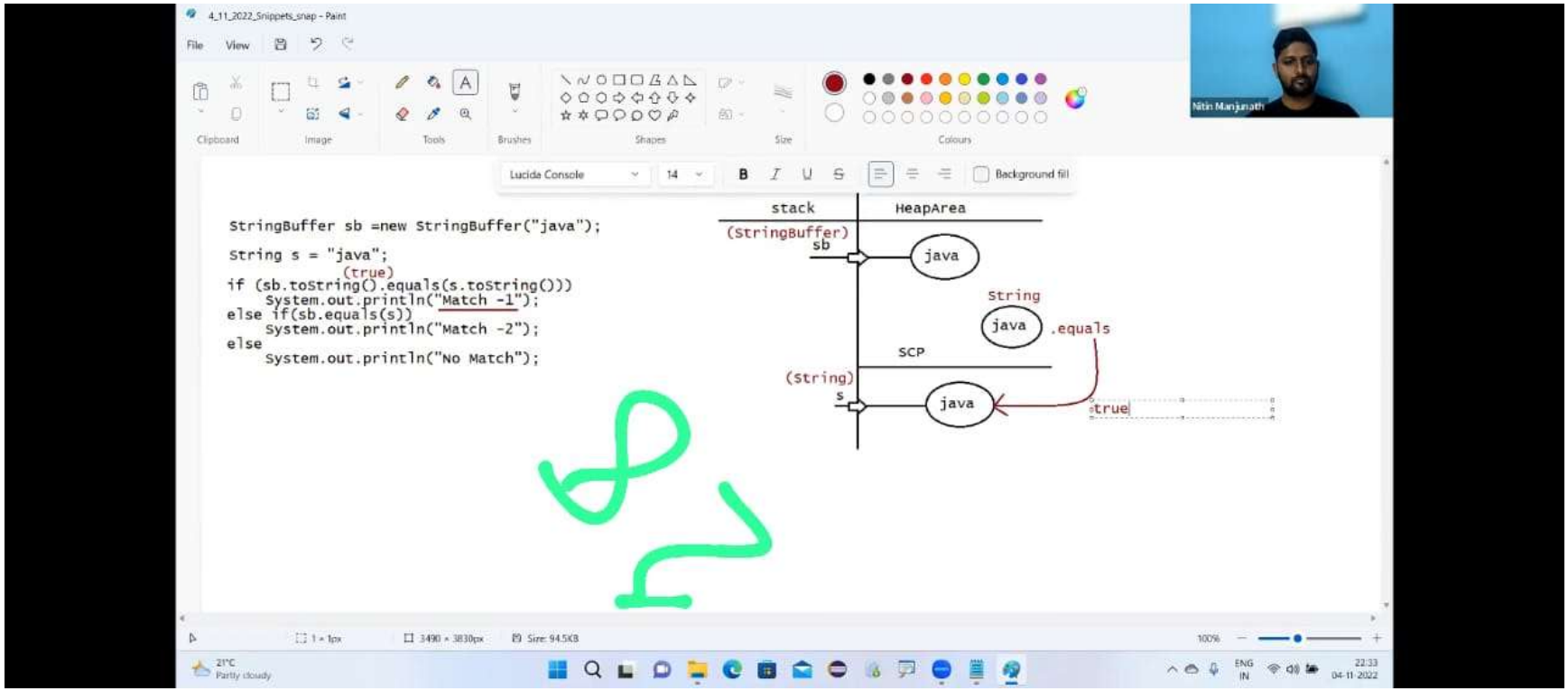
A. A B C
B. A B C D E
C. A B D E
D. Compilation fails

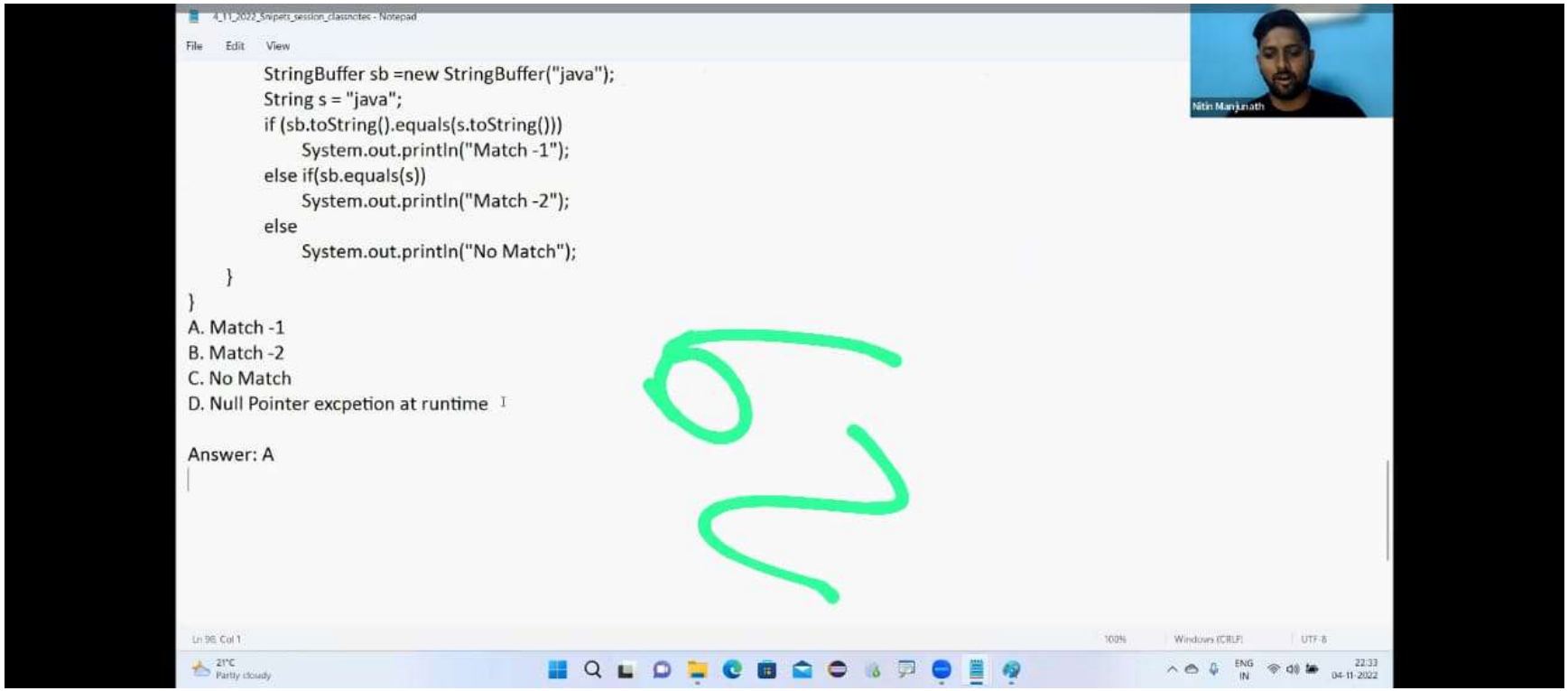
Answer: C

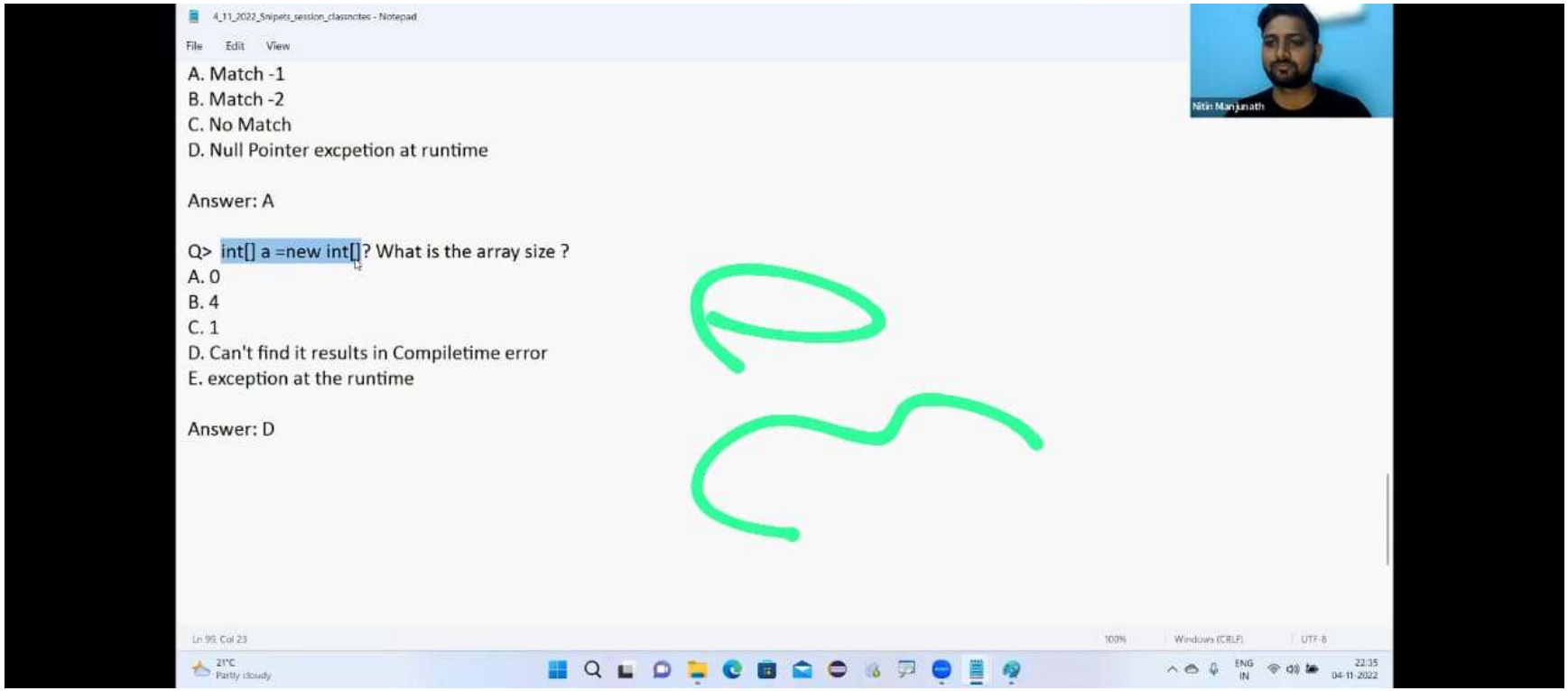
Ln 79, Col 1 100% Windows (CRLF) UTF-8

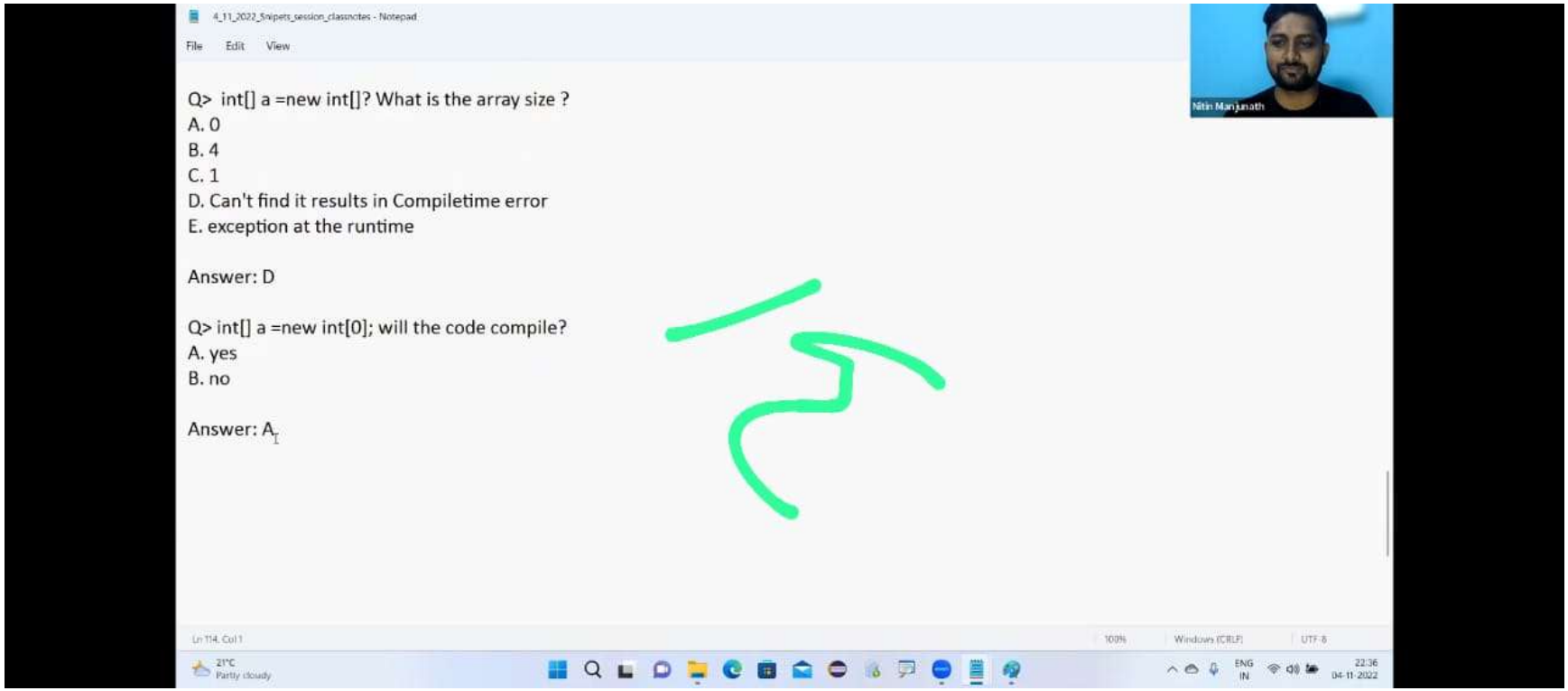
21°C Partly cloudy

ENG IN 22:26 04-11-2022


4_11_2022_Snippets_snap - Paint
File
View
Clipboard
Image
Tools
Brushes
Shapes
Size
Colours
Nitin Manjunath
Lucida Console
14
Background fill
StringBuffer sb =new StringBuffer("java");
String s = "java";
(true)
if (sb.toString().equals(s.toString()))
System.out.println("Match -1");
else if(sb.equals(s))
System.out.println("Match -2");
else
System.out.println("No Match");
stack
HeapArea
(StringBuffer)
sb
java
String
java
.equals
SCP
(String)
s
java
true
21°C
Partly cloudy
ENG
IN
22:33
04-11-2022


4_11_2022_Snipets_session_classnotes - Notepad
File Edit View
StringBuffer sb =new StringBuffer("java");
String s = "java";
if (sb.toString().equals(s.toString()))
System.out.println("Match -1");
else if(sb.equals(s))
System.out.println("Match -2");
else
System.out.println("No Match");
}
}
A. Match -1
B. Match -2
C. No Match
D. Null Pointer excpetion at runtime
Answer: A
Nitin Manjunath
Ln 96, Col 1
100%
Windows (CRLF)
UTF-8
21°C
Partly cloudy
ENG
IN
22:33
04-11-2022


4_11_2022_Snipets_session_classnotes - Notepad
File Edit View
A. Match -1
B. Match -2
C. No Match
D. Null Pointer excpetion at runtime
Answer: A
Q> int[] a =new int[]? What is the array size ?
A. 0
B. 4
C. 1
D. Can't find it results in Compiletime error
E. exception at the runtime
Answer: D
Nitin Manjunath
Ln 99, Col 23
100%
Windows (CRLF)
UTF-8
21°C
Partly cloudy
ENG
IN
22:35
04-11-2022


4_11_2022_Snipets_session_classnotes - Notepad
File Edit View
Q> int[] a =new int[]? What is the array size ?
A. 0
B. 4
C. 1
D. Can't find it results in Compiletime error
E. exception at the runtime
Answer: D
Q> int[] a =new int[0]; will the code compile?
A. yes
B. no
Answer: A
Nitin Manjunath
Ln 114, Col 1
100%
Windows (CRLF)
UTF-8
21°C
Partly cloudy
ENG
IN
22:36
04-11-2022