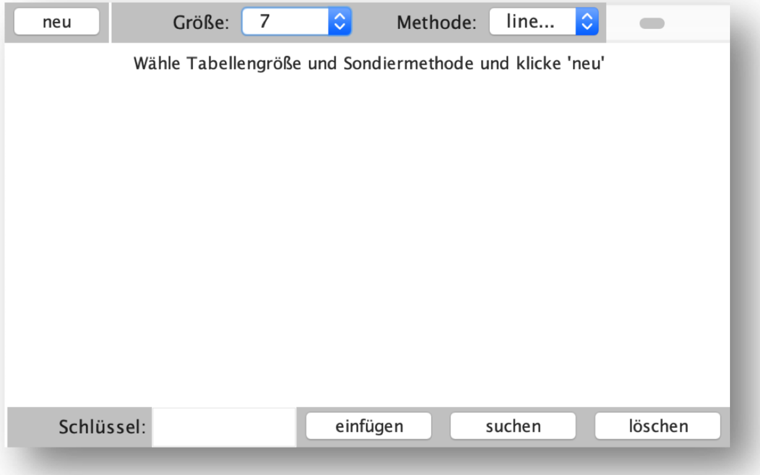
Applet 1 - „Interne Verkettung“

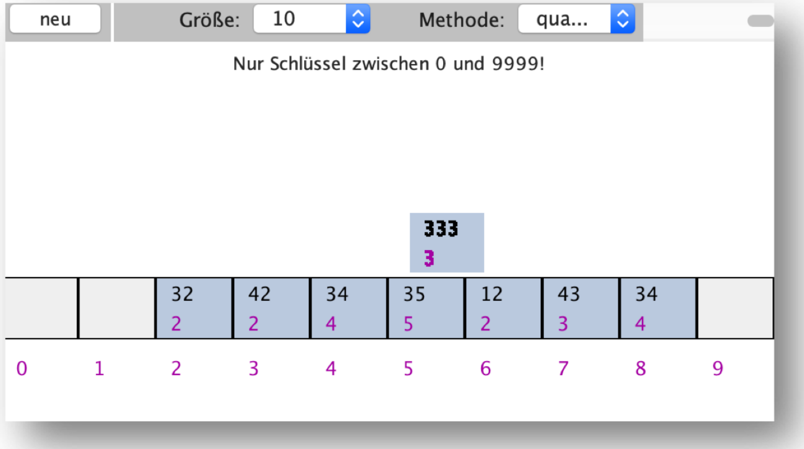
Insert, search and delete values in a hashtable



Größe: 7 Methode: line...

Wähle Tabellengröße und Sondiermethode und klicke 'neu'

Schlüssel:

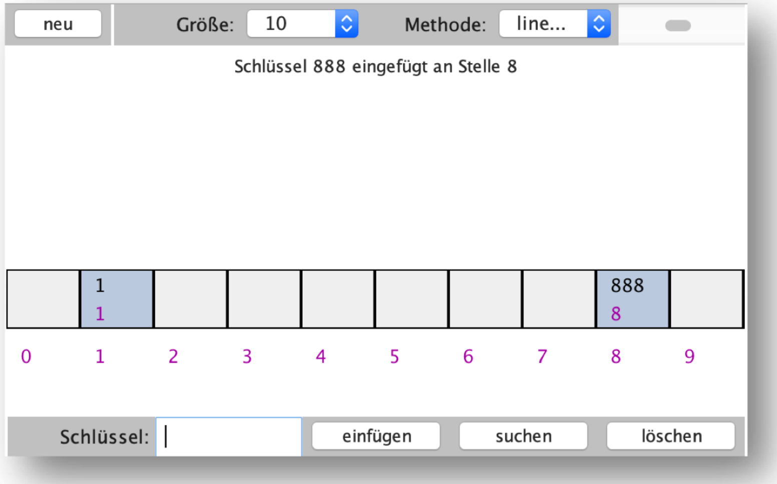


Größe: 10 Methode: qua...

Nur Schlüssel zwischen 0 und 9999!

333
3

		32 2	42 2	34 4	35 5	12 2	43 3	34 4	
0	1	2	3	4	5	6	7	8	9

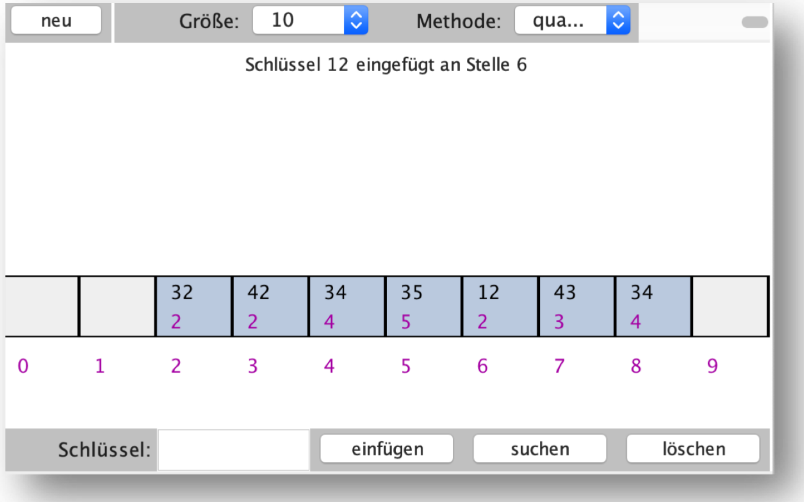


Größe: 10 Methode: line...

Schlüssel 888 eingefügt an Stelle 8

	1 1							888 8	
0	1	2	3	4	5	6	7	8	9

Schlüssel:



Größe: 10 Methode: qua...

Schlüssel 12 eingefügt an Stelle 6

		32 2	42 2	34 4	35 5	12 2	43 3	34 4	
0	1	2	3	4	5	6	7	8	9

Schlüssel:

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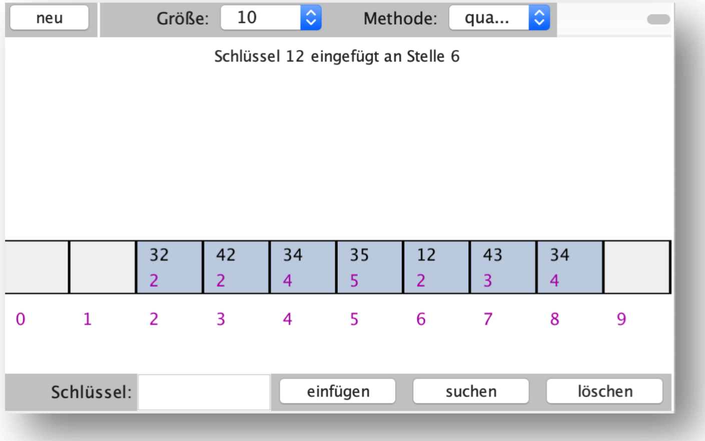


Größe: 10

Methode: qua...

Schlüssel 12 eingefügt an Stelle 6

		32	42	34	35	12	43	34	
		2	2	4	5	2	3	4	
0	1	2	3	4	5	6	7	8	9

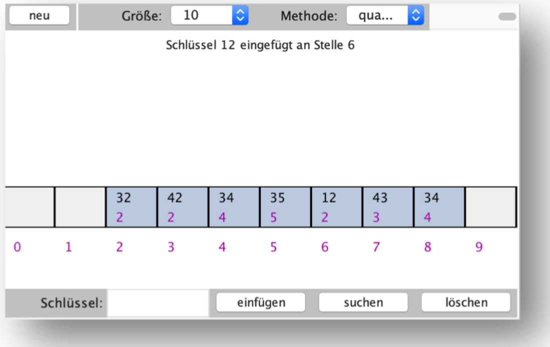
Schlüssel:

Current Status

YES	Applet ported (dir /new-applets)
YES	Create new table is working („neu“)
YES	Change Table size working („Größe“)
YES	Change Method working („Methode“)
YES	Insert products working
YES	Search products working
YES	Delete products working
NO	Change Speed working
NO	Animations working

Applet 1 - „Interne Verkettung“

Insert, search and delete values in a hashtable



Größe: 10

Methode: qua...

Schlüssel 12 eingefügt an Stelle 6

0	1	2	3	4	5	6	7	8	9
		32	42	34	35	12	43	34	
		2	2	4	5	2	3	4	

Schlüssel:

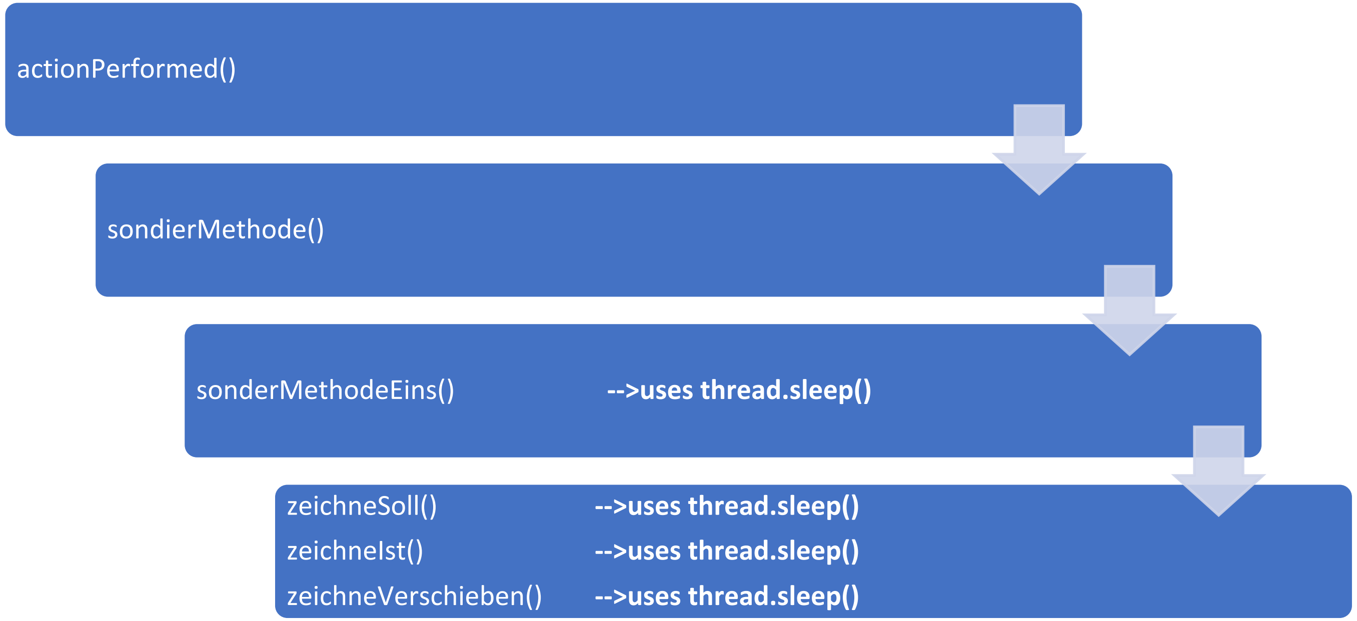
Problem Description

I am pretty sure that thread.sleep() causes the problem with the animations.

I have tried to replace thread.sleep() with the solution ideas you see on the image on the right but it did not work.

You can see the animation on the videos that I took for you in the same directory as this presentation

Thread.sleep() is only used in HashTabelle.java



actionPerformed()

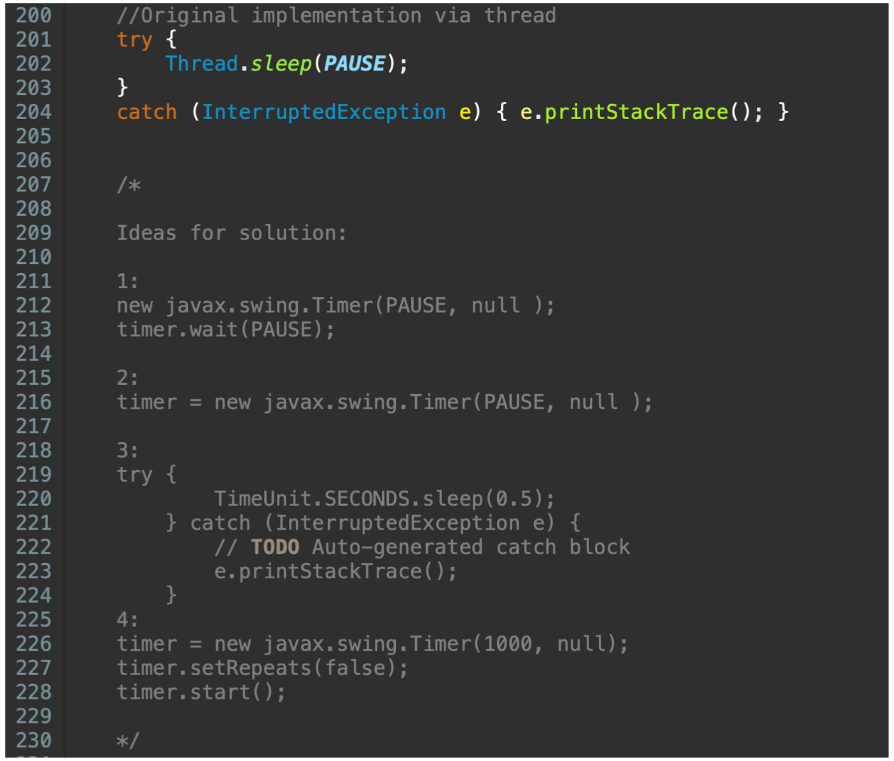
sondierMethode()

sonderMethodeEins() **-->uses thread.sleep()**

zeichneSoll() **-->uses thread.sleep()**

zeichneIst() **-->uses thread.sleep()**

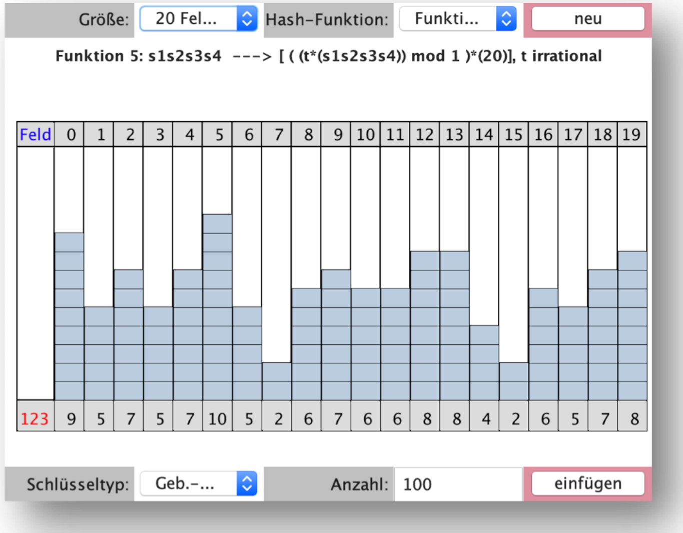
zeichneVerschieben() **-->uses thread.sleep()**



```
//Original implementation via thread
try {
    Thread.sleep(PAUSE);
}
catch (InterruptedException e) { e.printStackTrace(); }


/*

Ideas for solution:

1:
new javax.swing.Timer(PAUSE, null );
timer.wait(PAUSE);

2:
timer = new javax.swing.Timer(PAUSE, null );

3:
try {
        TimeUnit.SECONDS.sleep(0.5);
    } catch (InterruptedException e) {
        // TODO Auto-generated catch block
        e.printStackTrace();
    }
4:
timer = new javax.swing.Timer(1000, null);
timer.setRepeats(false);
timer.start();

*/
```

Applet 2 - „Kollisionen“

Different Collisions with differend hashfunctions/table sizes

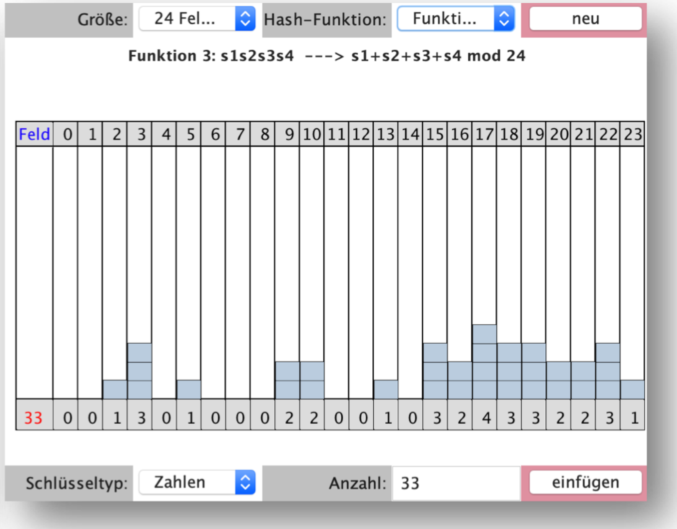


Größe: 20 Fel... Hash-Funktion: Funkti...

Funktion 5: s1s2s3s4 ---> [((t*(s1s2s3s4)) mod 1)*(20)], t irrational

Feld	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
123	9	5	7	5	7	10	5	2	6	7	6	6	8	8	4	2	6	5	7	8

Schlüsseltyp: Geb.-... Anzahl: 100

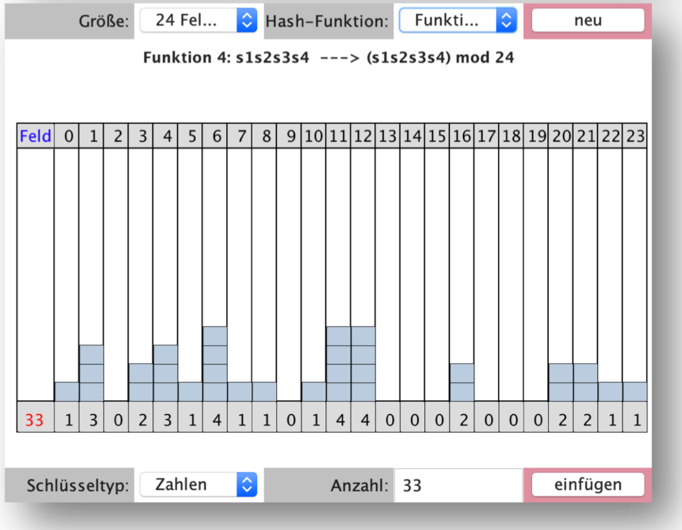


Größe: 24 Fel... Hash-Funktion: Funkti...

Funktion 3: s1s2s3s4 ---> s1+s2+s3+s4 mod 24

Feld	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
33	0	0	1	3	0	1	0	0	0	2	2	0	0	1	0	3	2	4	3	3	2	2	3	1

Schlüsseltyp: Zahlen Anzahl: 33



Größe: 24 Fel... Hash-Funktion: Funkti...

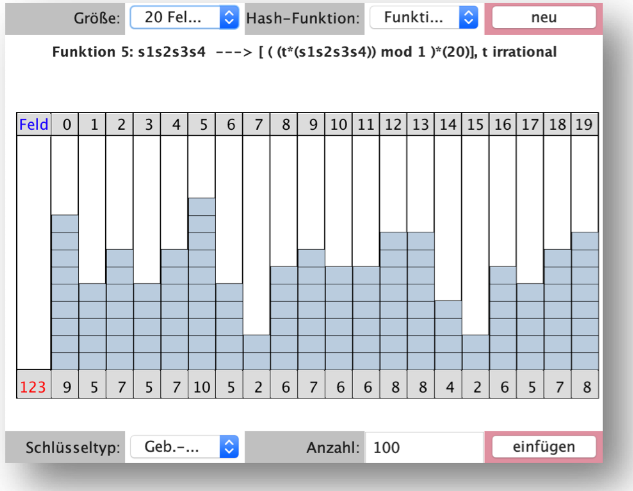
Funktion 4: s1s2s3s4 ---> (s1s2s3s4) mod 24

Feld	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
33	1	3	0	2	3	1	4	1	1	0	1	4	4	0	0	0	2	0	0	0	2	2	1	1

Schlüsseltyp: Zahlen Anzahl: 33

Applet 2 - „Kollisionen“

Different Collisions with differend hashfunctions/table sizes



Größe: 20 Fel... Hash-Funktion: Funkti...

Funktion 5: s1s2s3s4 ---> [((t*(s1s2s3s4)) mod 1)*(20)], t irrational

Feld	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
123	9	5	7	5	7	10	5	2	6	7	6	6	8	8	4	2	6	5	7	8

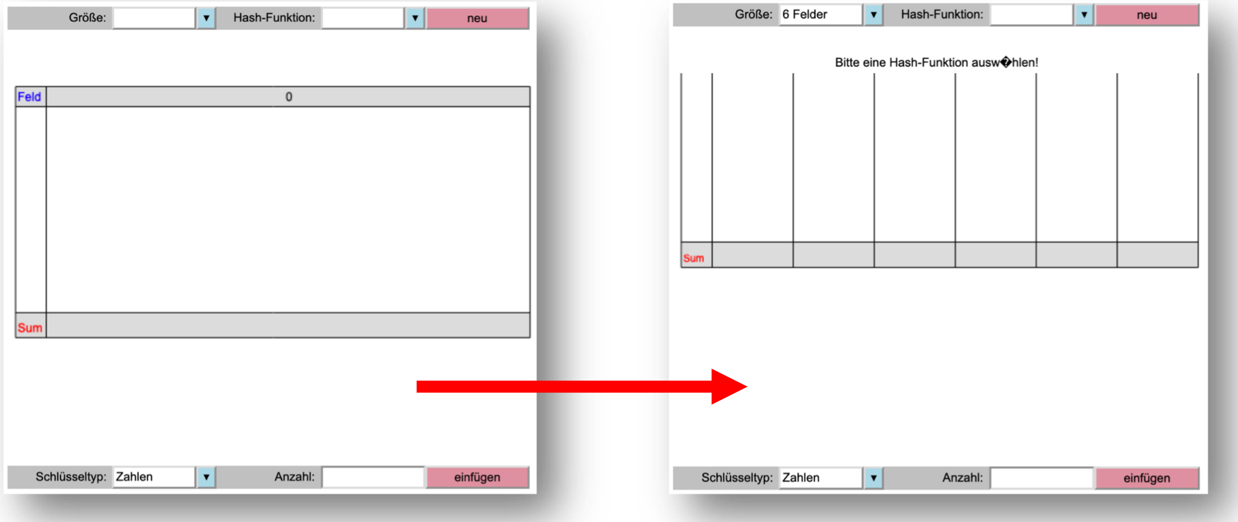
Schlüsseltyp: Geb.-... Anzahl: 100

Current Status

YES	Applet ported (dir /new-applets)
YES	Create new table is working („neu“)
YES	Insert elements is working („einfügen“)
YES	Change function working („Hash-Funktion“)
YES	Change table size working („Größe“)
YES	Change key type („Schlüsseltyp“)
YES	Delete products working
NO	Table placement working correct

Applet 2 - „Kollisionen“

Different Collisions with differend hashfunctions/table sizes



Größe:

Hash-Funktion:

Schlüsseltyp: Zahlen

Anzahl:

Größe: 6 Felder

Hash-Funktion:

Bitte eine Hash-Funktion ausw�hlen!

Schlüsseltyp: Zahlen

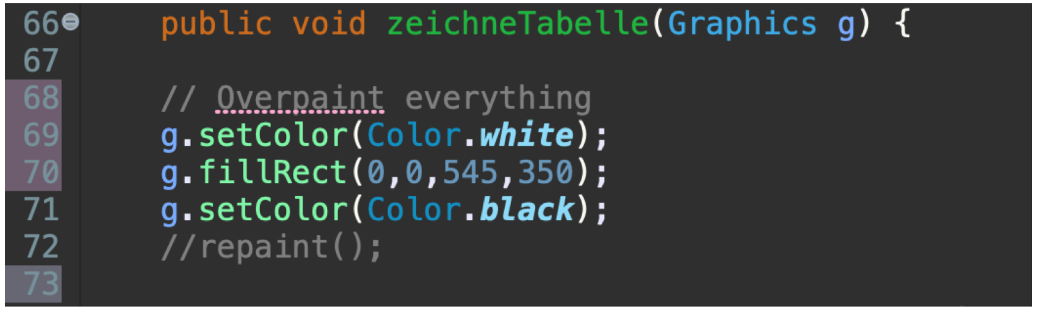
Anzahl:

Problem Description

The placement of the table is looking a bit strange. It‘s initialized correctly but when I change the state of a field the table is displayed with an offset somehow

The method zeichneTabelle is located in Tabelle.java and draws the table.
In the beginning the old table is overpainted.
When I add line 72 repaint(); the table is placed correctly but the program will become notchy afterwards

Please also see the clips in this dir:
applet2-JavaScript-line72-before
applet2-JavaScript-line72-after



```
66      public void zeichneTabelle(Graphics g) {
67
68      // Overpaint everything
69      g.setColor(Color.white);
70      g.fillRect(0,0,545,350);
71      g.setColor(Color.black);
72      //repaint();
73
```