Übung zur Vorlesung

Digitale Medien

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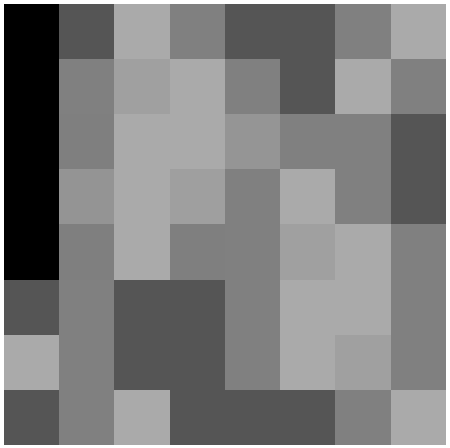
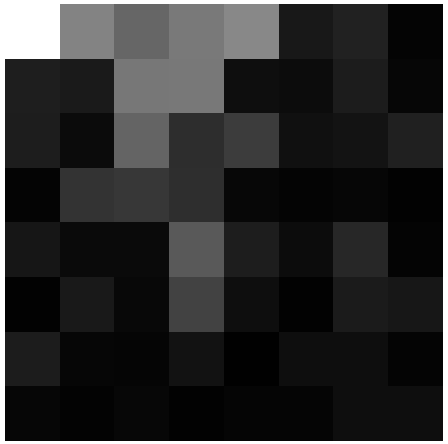
JPEG Kompression (1)

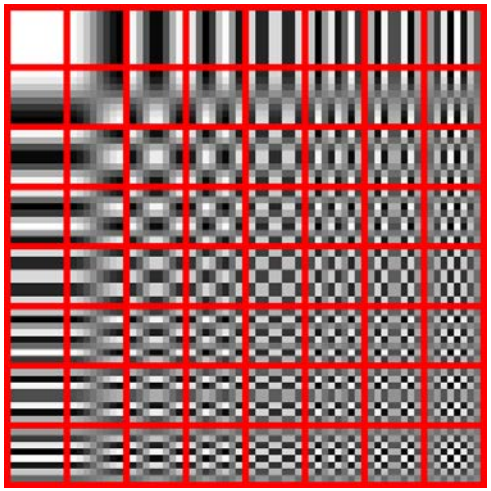
JPEG Kompression (2)

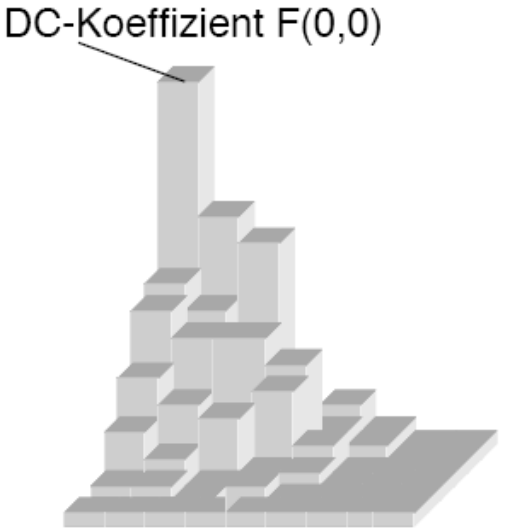
Konvertierung von 8x8 Bildblöcken in den Frequenzraum



Diskrete
Cosinus
Transformation

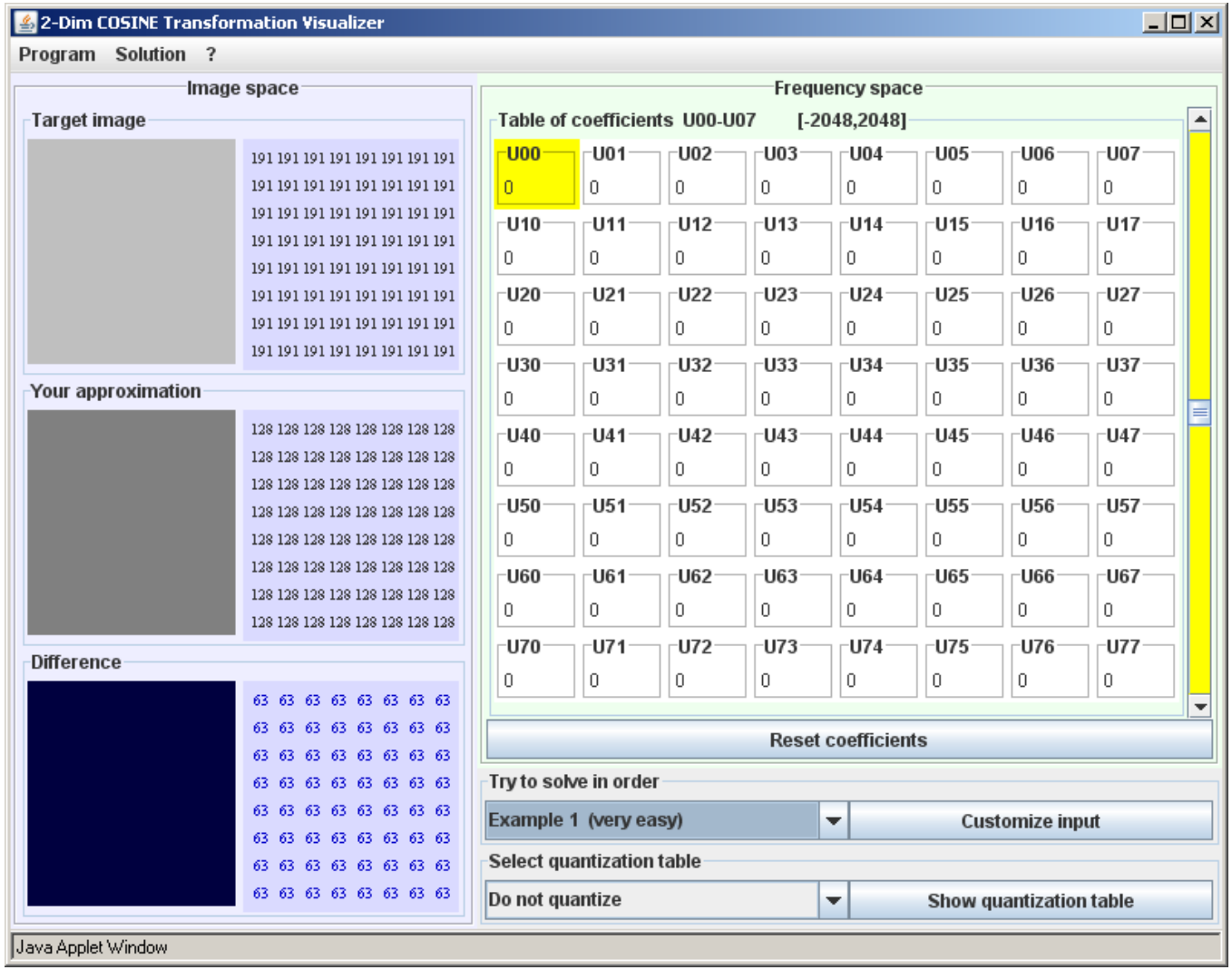






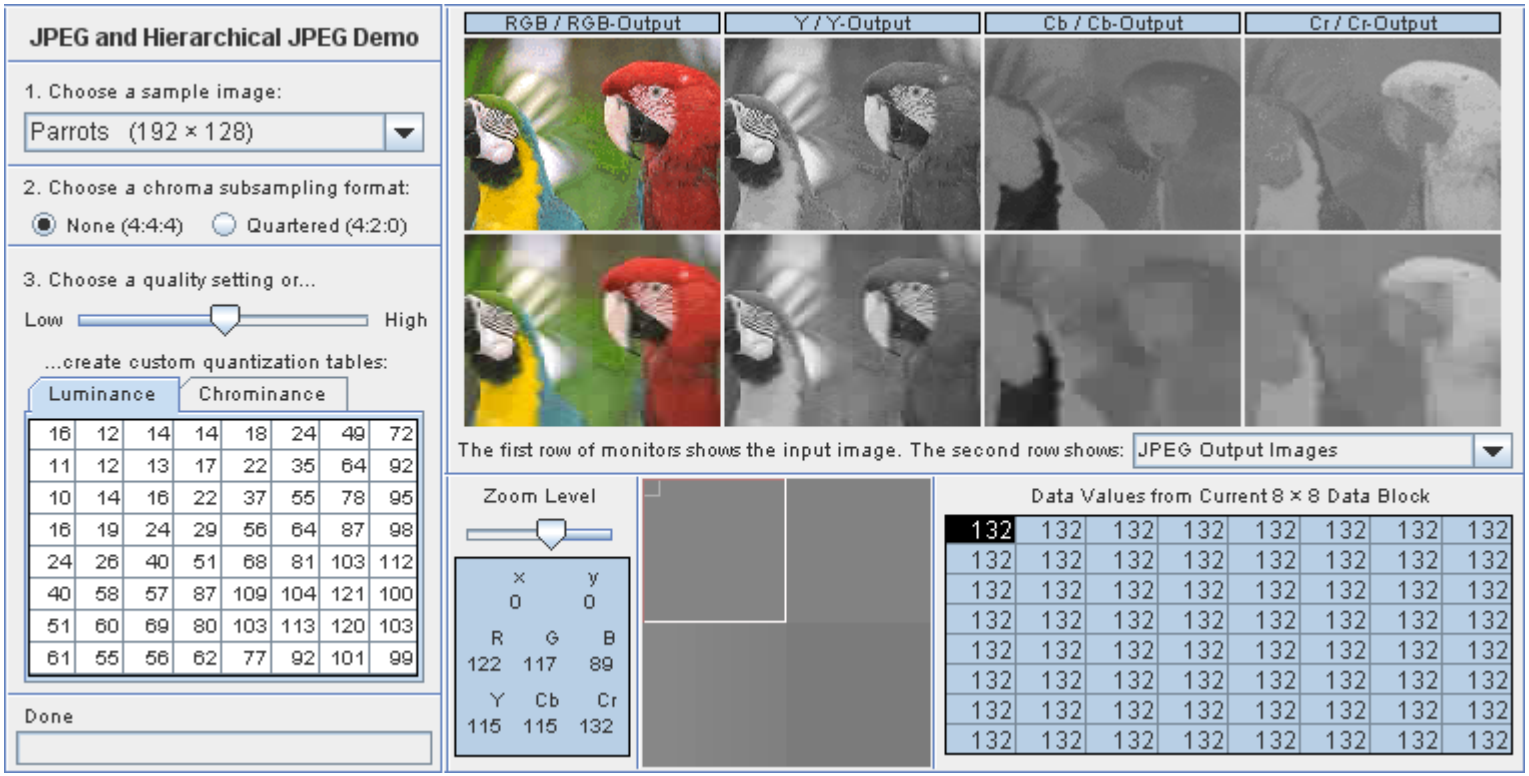
JPEG Kompression (3)

http://pi4.informatik.uni-mannheim.de/pi4.data/content/animations/dct_2d/index.html



JPEG Kompression (4)

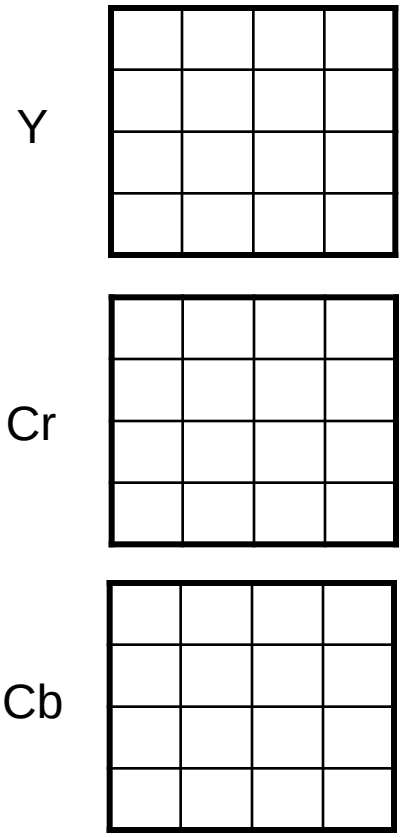
http://www.sfu.ca/~cjenning/toybox/hjpeg/



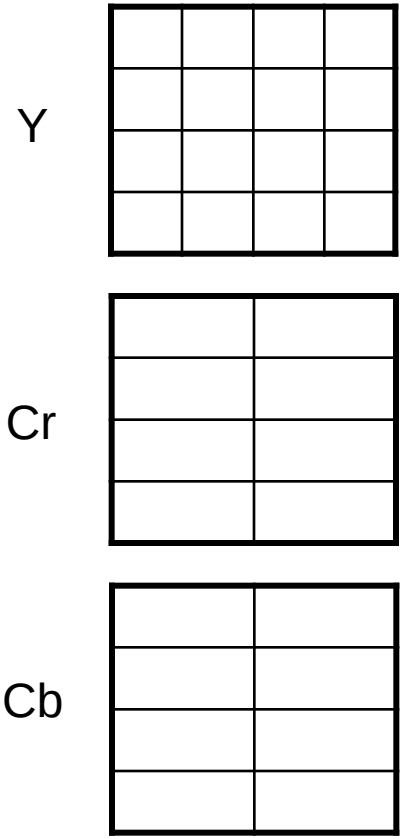
Notation Subsampling

– Beide Chroma-Kanäle immer gleich abgetastet
– x: Anzahl der Luma-Samples, Vielfaches der NTSC-Abtastfrequenz 3.570 MHz; in der Regel „4“
– y: Anzahl der Cr/Cb-Chroma-Samples, horizontal
– z: Falls z=y: kein vertikales Subsampling der Chroma-Kanäle
Falls z=0: vertikales Chroma-Subsampling 2:1 (zu den Luma-Samples)

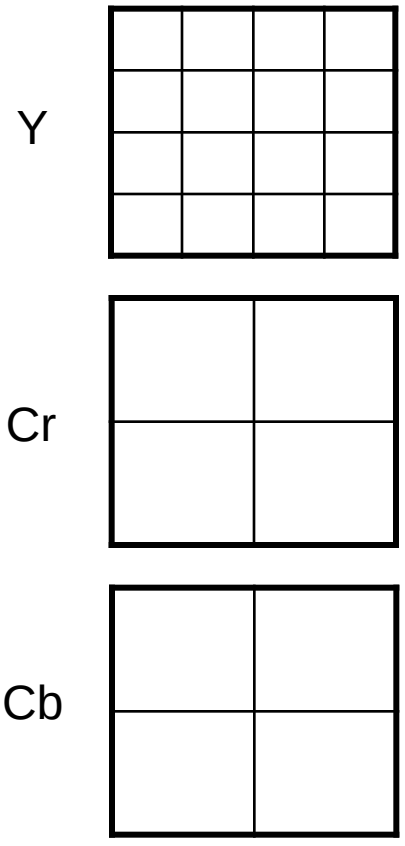
"4:4:4"



"4:2:2"

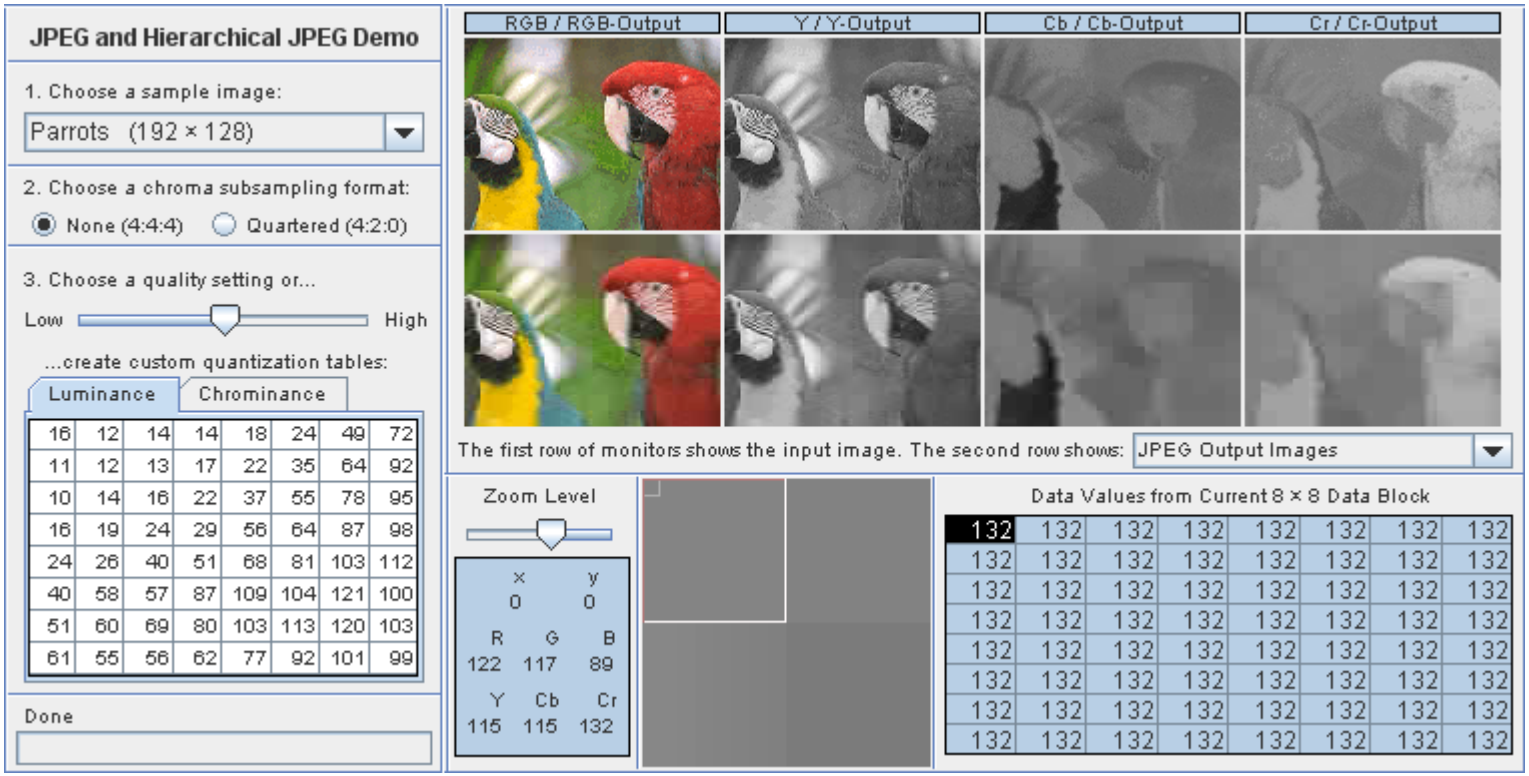


"4:2:0"



JPEG Kompression (5)

http://www.sfu.ca/~cjenning/toybox/hjpeg/



Bildmanipulation

Beispieldateien:

```
/home/proj/mi_dm/img/newyork.jpg
/home/proj/mi_dm/img/winter.jpg
```

oder `material9.zip`