

Slides Media Data Formats

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Andreas Uhl

Department of Computer Sciences
University of Salzburg

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Questions for Lecture Notes Section 3.1

- 1 What are reasons to apply **lossless** image compression techniques ?
- 2 What are halftoned images ? In how far are they different as compared to b/w documents ?
- 3 What is the underlying technique for T.4 fax compression ?
- 4 Explain the two 2-D variants of fax compression !
- 5 Which lossless encoding technique is the basis for JBIG-1 ?
- 6 Explain the idea of context-based arithmetic encoding !
- 7 How does the actual coding context of JBIG-1 look like ?
- 8 How is the binary image pyramid required for JBIG-1 coding created ?

Questions for Lecture Notes Section 3.1.2 - 3.1.3

- 9 Explain the example for “deterministic prediction” as given in the lecture notes.
- 10 How is it actually implemented in JBIG-1 ?
- 11 Explain “typical prediction” at the lowest resolution layer and all higher resolution layers.
- 12 Which type of image data segments are supported in JBIG-2 ?
- 13 What is unique in JBIG-2 as compared to other image coding standards (when thinking about progressiveness) ?
- 14 Explain the two variants of compressing text data in JBIG-2 - which one can also operate in lossy mode ?
- 15 How is improperly classified data compressed in JBIG-2 ?

Questions for Lecture Notes Section 3.1.3 - 3.1.6

- 16 Explain the two variants of compressing halftone data in JBIG-2 !
- 17 How can we convert a grayscale image into binary images (i.e. “bitplanes”) ?
- 18 Why is the classical binary representation not efficient when it comes to the compression of bitplanes generated from grayscale or colour data ?
- 19 In how far is Gray Code different from classical binary code ?
What is identical / similar ?
- 20 Lossless JPEG is not based on DCT but instead, it is based on ??
- 21 Which lossless coding algorithm is used in lossless JPEG ?
- 22 JPEG-LS can be operated in two modes - describe the discrimination criterion and the rough idea of the two modes.

Questions for Lecture Notes Section 3.1.6 -

- 23 Explain the idea of the predictor used in JPEG LS - why is it called median edge detector ?
- 24 Which lossless coding algorithm is used to encode JPEG LS residuals ?
- 25 What are the two major weaknesses of the GIF format ?
- 26 Once a file has the extension .tiff or .tif, what don't we know ?
- 27 What does the abbreviation "JPEG" stand for ?
- 28 When was JPEG standardised ? What are the three major components ?
- 29 Which image / colour format is processed by baseline JPEG ?