

Digital Image Processing

Laboratory Projects Guide

School of Information Engineering

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Project 1 Image File Format Convert

1. Purpose

The purposes of this project are to learn:

1. BMP file format;
2. how to convert a RAW image file into BMP file;
3. how to calculate the histogram of a BMP file.

2. Procedure

Follow the following steps:

- 1) Open and load a RAW file into memory.
- 2) Create a new BMP file.
- 3) Write file header, bitmap file information header, color palette, and image data into bmp file sequentially.
- 4) Calculate the histogram of the converted BMP file.

3. Program flow chart

A possible program flow chart of the file convert is recommended as shown in Figure 1.

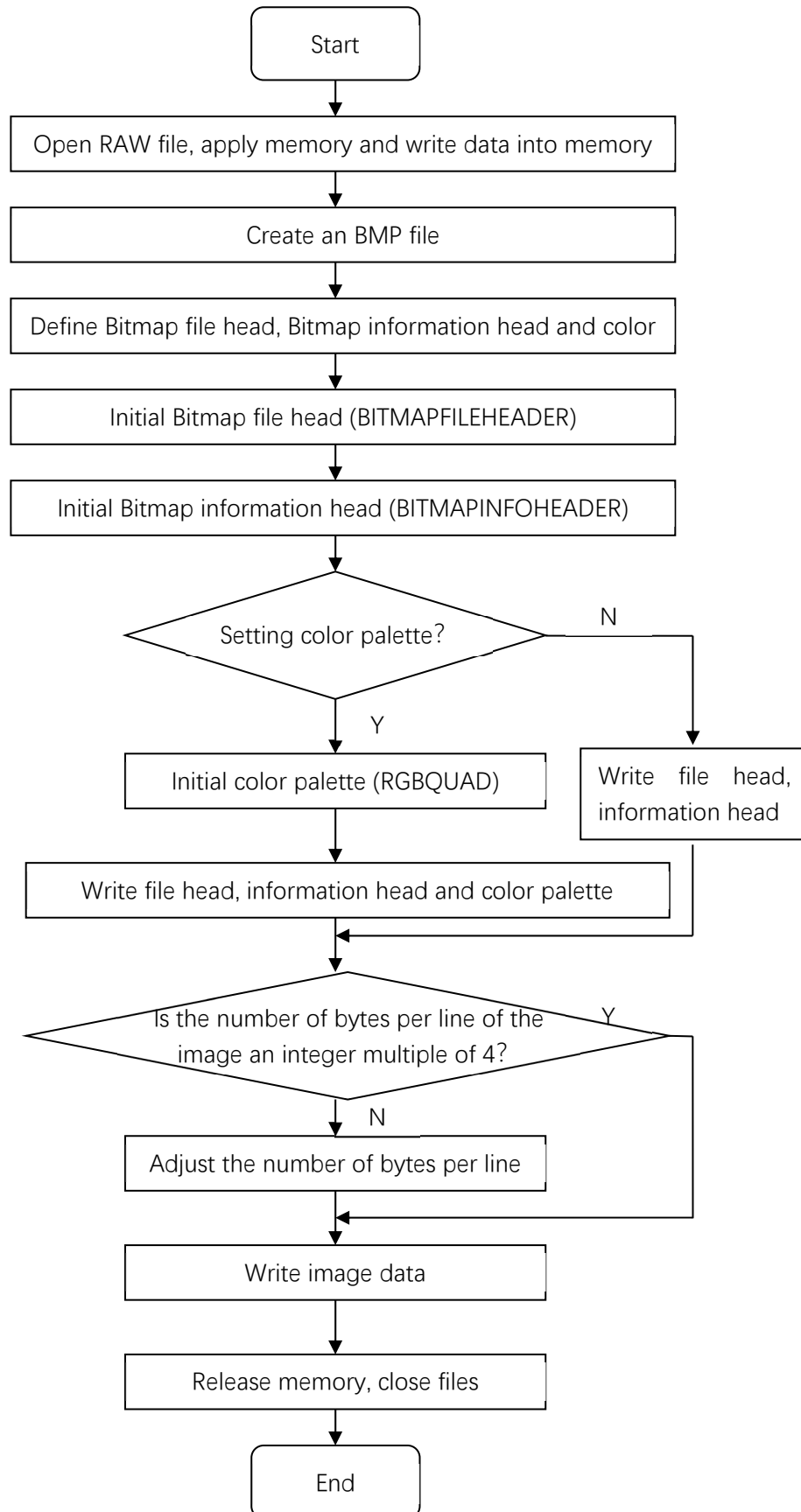


Figure 1. Program flow chart

4. Discussion

- 1) What is a color palette? Explain its data structure. How is the size of the BMP file palette determined?
- 2) In what order are the image data stored in the BMP file?