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// BMP-related data types based on Microsoft's own

#include <stdint.h>

// These data types are essentially aliases for C/C++ primitive data types.
// Adapted from http://msdn.microsoft.com/en-us/library/cc230309.aspx.
// See https://en.wikipedia.org/wiki/C\_data\_types#stdint.h for more on stdint.h.

typedef uint8_t  BYTE;
typedef uint32_t DWORD;
typedef int32_t  LONG;
typedef uint16_t WORD;

// The BITMAPFILEHEADER structure contains information about the type, size,
// and layout of a file that contains a DIB [device-independent bitmap].
// Adapted from http://msdn.microsoft.com/en-us/library/dd183374\(VS.85\).aspx.

typedef struct
{
    WORD    bfType;
    DWORD   bfSize;
    WORD    bfReserved1;
    WORD    bfReserved2;
    DWORD   bfOffBits;
} __attribute__((__packed__))
BITMAPFILEHEADER;

// The BITMAPINFOHEADER structure contains information about the
// dimensions and color format of a DIB [device-independent bitmap].
// Adapted from http://msdn.microsoft.com/en-us/library/dd183376\(VS.85\).aspx.

typedef struct
{
    DWORD   biSize;
    LONG    biWidth;
    LONG    biHeight;
    WORD    biPlanes;
    WORD    biBitCount;
    DWORD   biCompression;
    DWORD   biSizeImage;
    LONG    biXPelsPerMeter;
    LONG    biYPelsPerMeter;
    DWORD   biClrUsed;
    DWORD   biClrImportant;
} __attribute__((__packed__))
BITMAPINFOHEADER;

// The RGBTRIPLE structure describes a color consisting of relative intensities of
// red, green, and blue. Adapted from http://msdn.microsoft.com/en-us/library/aa922590.aspx.

typedef struct
{
    BYTE    rgbtBlue;
    BYTE    rgbtGreen;
    BYTE    rgbtRed;
} __attribute__((__packed__))
RGBTRIPLE;
```