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// HARVARD CS50 Week 4 - Recover - Implement a program that recovers
 JPEGs from a forensic image on a memory card

// PSEUDO CODE
// 1. Open memory card
// -->  FILE *f = fopen(filename, "r");
// 2. Repeat until end of card
//    Read 512 bytes into a buffer
//    --> Read files: fread(ata,size, number, inptr);
//    --> where... data = ointer to whereto store read data, size =
 size of each element to read, number = number of elements to read,
 inptr = FILE *to read from
//    --> Buffer Bitwise Arithmetic --> (buffer[3] & 0xe0) == 0xe0
//    If start of new JPEG
//    --> Look for beginning of a JPEG --> 1st byte = 0xff, 2nd byte =
 0xd8, 3rd byte = 0xff, 4th byte = 0xe...
//     If first JPEG
//     --> Start writing
//     --> ###.jpg --> sprintf(filename, "%03i.jpg",2);
//     --> FILE *img = fopen(filename, "w");
//     --> fwrite(data, size, number, outptr);
//     Else
//      If already found JPEG
//       Keep writing
//      --> Last byte = 0xe0, 0xe1, 0xe2, ..., 0exf
// 3. Close remaining files


// include libarries
#include <stdio.h>
#include <stdlib.h>

int main(int argc, char *argv[])
{
    // check if commandline entry is correct and file name specified
    [redacted]
    [redacted]
        [redacted]
        [redacted]
    [redacted]

    // 1. open memory card & display error message if not opening
 properly
    [redacted]
    [redacted]
```

```
[redacted]
    [redacted]
    [redacted]
[redacted]

//create vars and allocate memory
[redacted]
[redacted]
// use of malloc
[redacted]
[redacted]
[redacted]

[redacted]
[redacted]
    // if new JPEG found...
    [redacted]
[redacted]
    [redacted]
        // close previous JPEG if it exists
        [redacted]
        [redacted]
            [redacted]
        [redacted]

        // specify filename
        [redacted]
        // open new image file
        [redacted]

        // check if JPEG created successfully
        [redacted]
        [redacted]
            [redacted]
            [redacted]
            [redacted]
            [redacted]
        [redacted]

        [redacted]
    [redacted]

    // if any JPEG exists writes on currently opened file
    [redacted]
    [redacted]
        [redacted]
```

```
    [redacted]
[redacted]

// close all files
[redacted]
[redacted]

// free Memory
[redacted]
[redacted]
[redacted]
```