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**Assignment Lesson 2**

1. Write an algorithm to store data of a 2D image seen as a 2D

array for black and white images.

2. Write an algorithm to store data of a 2D image seen as a 2D

array for color images.

**Answers**

1). Write an algorithm to store data of a 2D image seen as a 2D array for black and white images.

function storeDataBlackWhite(imageArray, width, height) {

// Initialize an empty object to store the pixel data

let imageData = {};

// Loop through each row in the imageArray

for (let i = 0; i < height; i++) {

// Create a key in the imageData object for each row

imageData[i] = {};

// Loop through each pixel in the row

for (let j = 0; j < width; j++) {

// Check if the pixel is black (0) or white (1)

if (imageArray[i][j] === 0) {

// If the pixel is black, replace it with the string 'B'

imageData[i][j] = 'B';

} else {

// If the pixel is white, replace it with the string 'W'

imageData[i][j] = 'W';

}

}

}

// Return the imageData object containing the pixel data

return imageData;

}

2). Write an algorithm to store data of a 2D image seen as a 2D

array for color images.

function storeDataColor(imageArray, width, height) {

// Initialize an empty object to store the pixel data

let imageData = {};

// Loop through each row in the imageArray

for (let i = 0; i < height; i++) {

// Create a key in the imageData object for each row

imageData[i] = {};

// Loop through each pixel in the row

for (let j = 0; j < width; j++) {

// Check if the pixel is red (1), green (2), or blue (3)

if (imageArray[i][j] === 1) {

// If the pixel is red, replace it with the string 'R'

imageData[i][j] = 'R';

} else if (imageArray[i][j] === 2) {

// If the pixel is green, replace it with the string 'G'

imageData[i][j] = 'G';

} else {

// If the pixel is blue, replace it with the string 'B'

imageData[i][j] = 'B';

}

}

}

// Return the imageData object containing the pixel data

return imageData;

}