

```
1 // Convert image to sepia
2 void sepia(int height, int width, RGBTRIPLE image[height][width])
3 {
4     // Loop over all pixels
5     for (int i = 0; i < height; i++)
6     {
7         for (int j = 0; j < width; j++)
8         {
9             // Compute sepia values
10            int sepiaRed = round(.393 * image[i][j].rgbtRed + .769 * image[i][j].rgbtGreen + .189 * image[i]
[j].rgbtBlue);
11            int sepiaGreen = round(.349 * image[i][j].rgbtRed + .686 * image[i][j].rgbtGreen + .168 * image[i]
[j].rgbtBlue);
12            int sepiaBlue = round(.272 * image[i][j].rgbtRed + .534 * image[i][j].rgbtGreen + .131 * image[i]
[j].rgbtBlue);
13
14            // test if the value is larger than 255
15            if (sepiaRed > 255)
16            {
17                sepiaRed = 255;
18            }
19            if (sepiaGreen > 255)
20            {
21                sepiaGreen = 255;
22            }
23            if (sepiaBlue > 255)
24            {
25                sepiaBlue = 255;
26            }
27            // Update pixel with sepia values
28            image[i][j].rgbtRed = sepiaRed;
29            image[i][j].rgbtGreen = sepiaGreen;
30            image[i][j].rgbtBlue = sepiaBlue;
31        }
32    }
33    return;
34 }
```

```
1 // Convert image to sepia
2 void sepia(int height, int width, RGBTRIPLE image[height][width])
3 {
4     int originalRed;
5     int originalGreen;
6     int originalBlue;
7     float sepia;
8     for (int i = 0; i < height; i++)
9     {
10        for (int j = 0; j < width; j++)
11        {
12            // Get original RGB values
13            originalRed = image[i][j].rgbtRed;
14            originalGreen = image[i][j].rgbtGreen;
15            originalBlue = image[i][j].rgbtBlue;
16
17            // Get sepia values then update pixel with sepia values
18            sepia = .393 * originalRed + .769 * originalGreen + .189 * originalBlue;
19            image[i][j].rgbtRed = round(fmin(sepia, 255.0));
20            sepia = .349 * originalRed + .686 * originalGreen + .168 * originalBlue;
21            image[i][j].rgbtGreen = round(fmin(sepia, 255.0));
22            sepia = .272 * originalRed + .534 * originalGreen + .131 * originalBlue;
23            image[i][j].rgbtBlue = round(fmin(sepia, 255.0));
24        }
25    }
26    return;
27 }
```