DATA COMPRESSION 05

Ok just see this numbers and according to this i am going to write my program let me just ok let it be there let me just keep some space so that it is visible here ok great awesome so what i am going to do i will loop through the old loop through my old image i will see the values one by one see where it lies in this in these blocks, block number zero block number one two three four up to seven where the numbers are lying and accordingly i will change i will put the pixels in my this new image which is which i have created correspondingly i mean wherever i am getting the number in this image in my old image in that corresponding place of this new image which has created i will put what i am going to assign here so suppose i get a number at let's say four comma three comma two is one thirty eight one thirty eight lies between one twenty eight to one fifty nine so i will put four at three comma two in this new matrix so this will be my new image so i will write it down i will write the loop for i in range of image dot size, size is two sorry get the size of image zeroth is the row number of ok and for j in range image dot size of i sorry one ok so row and column i am going through each row and of each column and then i will check if the old image is which one the pixel map this is the old image which i have loaded in pixel map so if pixel map ok of i comma j is greater than equal to zero i am checking for the first law if if if the number which i am iterating through ok is greater than equal to zero and ok let me ok let me write this pixel map i comma j and it is greater than zero and it is less than equal to thirty one it means this this particular cell value lies between zero to thirty one if it is the case then you write pixel name pixel new i j as i comma j as what will put zero ok let me just we are going to use this line again and again so let me just copy this ok so i will just put rather than if else if else if, if it is not in the first block the value is not lying between zero to thirty one, if it is lying between thirty two to sixty three then put what one copy this because it is our else if part i will put here else if it is not even in the second block so if it is lying between sixty four to ninety five, ninety five is our third block i will put two ok and if it is not there then if it is between ninety six to one twenty seven, one twenty seven, ninety six to one twenty seven is my fourth block so i will put three ok and if it is not there but it is between one twenty eight to one fifty nine then i will put four they're ok it an if it is between if it is not there but in between one sixty to one ninety one then i will put five there and if it is not there but in between one ninety two to two two three two two three i will put six there sorry six there and if it is not there and at last thing which i have to check is if it is between two two four to two fifty five it must be there that's it my work is done here so i have created this new image i have mapped all my blocks to my original to whatever i wanted to so that i can reduce the size ok now what i am going to do i will just save this image with the command image dot save let me write the name as lena is equal to dot jpg ok i will see the matrix also here i saw the matrix as where did i write oh i removed it ok let me write it again so j let me write it that i will write it j numpy dot as array and image dot i don't need to open it i can just i already open it there it's ok lena is equal to dot jpg so i will see this new image as an array and how so my program is complete so let me just run it great so i will saved it let me just check this j you can see all these values have been mapped accordingly if you see this array let me show you one thirty five was a one thirty five was lying between one twenty eight to one fifty nine hence the four is written so all these values all these values if you see it is lying between one twenty eight to one fifty nine

that's why i have mapped it with four so the mapping has been done and i have save the image as the lena dot jpg so i will go to my folder and i will see the image, you can see it its looking black but it's not exactly black i will open it and you can see that some part its actually visible the image is exactly same if we look at the image here you can see image is exactly the same image if you see the boundary if you see the face eyes everything is same its just that we are trying to represent eight bit image into three bit image that's why so much we have lost we have lost a lot so it's looking approximately everything is looking black but still you can see the image lining all the edges all the other things are exactly the same so this is compression and if you see the size, size of first image was forty two kb this is just four kb four point eight six kb it is reduced a lot lot ok so this is one type of compression which you can achieve through this just simple naive method there are lot of lot of tons of method for image compression and it is it still a hot topic people have still working on this compression technique. If you see the this image format for example jpg these are also compression techniques and how to represent an image in an very in a very efficient way so that it takes less time but the quality is not compromised so this we just wanted to give you a motivation give you a motivation of image compression and compression in general that's why we shoed this example. You can check out different algorithms for compression and you can even discuss about that those algorithms in the discussion form so that we can we can give you inputs and also we can learn about that. So this was just to motivate you guys how you can how it is simple to see these things through the first principle and achieve such kind of things so it looks like that compression is what exactly is going on the compression when we do the zip and rar of some files and then we see that the size of file reduce and we just copy it or we just send it on email but we don't understand how to what exactly is going on. So these simple methods are actually used in the background to compress those files so image compression is a very hot topic and there are very many ways through which you can compress the image and actually people see the way people study the way we pursue image on based on those studies they do the compression and it is actually it has been very successful venture through this. So please discuss about this technique in discussion form and ask question if you have any. Thank you.