Create the following matrix A: $A = \begin{bmatrix} 6 & 43 & 2 & 11 & 87 \\ 12 & 6 & 34 & 0 & 5 \\ 34 & 18 & 7 & 41 & 9 \end{bmatrix}$

Use the matrix A to:

a) Create a five-element row vector named `va` that contains the elements of the second row of A.

b) Create a three-element row vector named `vb` that contains the elements of the fourth column of A.

c) Create a ten-element row vector named `vc` that contains the elements of the first and second rows of A.

d) Create a six-element row vector named `vd` that contains the elements of the second and fifth columns of A.

Create the following three matrices:

$$A = \begin{bmatrix} 5 & 2 & 4 \\ 1 & 7 & -3 \\ 6 & -10 & 0 \end{bmatrix} \qquad B = \begin{bmatrix} 11 & 5 & -3 \\ 0 & -12 & 4 \\ 2 & 6 & 1 \end{bmatrix} \qquad C = \begin{bmatrix} 7 & 14 & 1 \\ 10 & 3 & -2 \\ 8 & -5 & 9 \end{bmatrix}$$

a) Calculate $A + B$ and $B + A$ to show that addition of matrices is commutative.

b) Calculate $A + (B + C)$ and $(A + B) + C$ to show that addition of matrices is associative.

c) Calculate $5(A + C)$ and $5A + 5C$ to show that, when matrices are multiplied by a scalar, the multiplication is distributive.

d) Calculate $A*(B + C)$ and $A*B + A*C$ to show that matrix multiplication is distributive.

Calculate: $\dfrac{3^7 \log(76)}{7^3 + 546} + \sqrt[3]{910}$

Using the ones and zeros commands, create a 4×5 matrix in which the first two rows are 0's and the next two rows are 1's.

Take your own photo(RGB image) and create following images and save them for future use.

1) Gray scale image

2)Black and white image

3)Over Exposed image

4)Under Exposed image

5) keep your face only-crop rest of the image.

6) Resize the image to 256*256.

Take your own photo and process them for following results using loop controling structures.

1) flip your image vertically

2) create the mirror image

3) rotate the image by 90 degree

4)rotate the image by 270 degree