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# Test Algorithmique

(Saturation d’une image )

# SOMMAIRE

Rappel de la problématique :

Une Image en nuances de gris, découpée en pixels, peut etre considérée comme un tableau à 2 dimensions, ou matrice , dont les élément sont des entiers de 0 à 100, appels saturation.

L'objectif est d'écrire quelques algorithmes modifiant la saturation d'une image.

PARTIE A :

Q1 : La fonction Mystere inverse les éléments du tableau .

```
{75,72,0,0,0,0},
 {56,55,50,0,0,0},
 {35,35,50,80,0,0,},
{10,38,0,95,100,100},
{40,13,0,100,0,0,}
```

Q2 :

```
if (Matrice [i][j]> 50 && Matrice [i][j]<=75){
    Matrice [i][j]= 75;
 }

else if (Matrice [i][j]>75)
    Matrice [i][j]= 100;

else Matrice [i][j] = (Matrice [i][j])/2 ;

    while (resultat < Matrice [i][j]){
             resultat ++;}
```

# Intégralité du code :

```
  */
    public static void main(String[] args) {
        // TODO code application logic here
        Scanner reader = new Scanner (System.in);
       double MM=0;
       int  i,j;
       final int NL=5;
       final int NC=6;
       int [][] Matrice;
       Matrice= new int [][]{
           {25,28,100,100,100,100},
           {44,45,50,100,100,100},
           {65,65,50,20,100,100,},
           {90,62,100,5,0,0},
           {60,87,100,0,100,100,}
    };
       for (i=0; i<NL; i++){
           System.out.println();
           for (j=0; j<NC; j++){
               System.out.println( Matrice [i][j]  + "\t" );
           }
```

```
}


System.out.println("\nNouvelle Matrice :");
  int [][] NvllM = Image_Saturation(Matrice);
for (i=0; i<NL; i++){
    System.out.println();
    for (j=0; j<NC; j++){
         System.out.print(NvllM [i][j] + "\t");
    }
}
double MOY = Moyenne(MM);
System.out.println("\n La Moyenne Vaut : ");
for (i=0; i<NL; i++){
    for(j=0; j<NC; j++){
        System.out.println(MOY);
    }
}
```

```
}


public static int [][] Image_Saturation( int [] [] Martice){
   int i,j;
  final int NL=5;
  final int NC=6;
  int [] []Matrice;
  Matrice = new int [][]{
     {25,28,100,100,100,100},
     {44,45,50,100,100,100},
     {65,65,50,20,100,100,},
     {90,62,100,5,0,0},
     {60,87,100,0,100,100,}
};


  for (i=0; i<NL;i++){
     for (j=0; j<NC; j++){
        Matrice [i][j] = 100 - Matrice [i][j];


        int resultat = Matrice [i][j];


        if (Matrice [i][j]> 50 && Matrice [i][j]<=75){
           Matrice [i][j]= 75;
```

```
         }

        else if (Matrice [i][j]>75)
           Matrice [i][j]= 100;

        else Matrice [i][j] = (Matrice [i][j])/2 ;

           while (resultat < Matrice [i][j]){
                 resultat ++;}

      }

           }

  return Matrice && resultat +1 ;
}

public static double Moyenne( double  MM){

 int i,j,somme;
 double moyenne;
  final int NL=5;
  final int NC=6;
  int [] []Matrice;
  Matrice = new int [][]{
      {25,28,100,100,100,100},
      {44,45,50,100,100,100},
      {65,65,50,20,100,100,},
      {90,62,100,5,0,0},
      {60,87,100,0,100,100,}
};
 somme = 0;
      for (i=0; i<NL; i++){
          for (j=0; j<NC; j++){
              somme = somme + Matrice[i][j];
          }
      }
      moyenne = somme / (NL*NC);
}


      return moyenne;
}
```