Contents

```matlab
function [multiDimArray,mk] = chromoSortMultiDim(chromeArray)
% CHROMOSOME OUTPUT FORMATTER FOR OUTPUT OF GENETIC ALGORITHM TO BE
% PROCESSED BY THE FITNESS FUNCTION f(X).
% THE FUNCTION IS USED IN THE FALL 2017 ME 6101 FINAL GROUP PROJECT ON
% GREEN MODULAR DESIGN OPTIMIZATION
%
% NOTE: TO OBTAIN THE FORMATTED CHROMOSOME USED IN F(X), USE chromoSort.m
%       INSTEAD!
%
% INPUT: [MXN DOUBLE]       CHROMOSOME OUTPUT FROM GA
%                           EACH INDICE IN THE VECTOR IS A GENE INDICATING
%                           THE NUMBER OF MODULES TO BE GROUPED. THE INDEX
%                           OF THE GENE POSITION INDICATES THE NUMBER OF
%                           COMPONENTS
%
% OUTPUT: [MxMxN DOUBLE]    REFORMATTED LOGICAL ARRAY BREAKING THE NUMBER
%                           OF MODULES TO BE GROUPED INTO DIFFERENT ROWS.
%                           THE TRUE/ONE INDICES MARK THE POSITIONS WHERE
%                           THE MODULES ARE PRESENT - IE THE NUMBER OF
%                           COMPONENTS IN THE MODULE
%         [1x1 DOUBLE]      VALUE OF THE TOTAL NUMBER OF DIFFERENT
%                           ELEMENTS CONTAINED IN THE DIFFERENT
%                           CHROMOSOMES. THIS CORRESPONDS TO THE NUMBER OF
%                           LOWER LEVEL CHROMOSOMES THAT HAVE BEEN
%                           DECOMPOSED
%
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%
% PROJECT: ME 6101 GREEN MODULAR DESIGN GROUP PROJECT
% DATE: NOVEMBER 2017
% LOCATION: GEORGIA INSTITUTE OF TECHNOLOGY. ATL, GA
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% INDEX THE NUMBER OF ROWS AND COLUMNS OF THE INPUT CHROMOSOME ARRAY
% n IS THE NUMBER OF COMPONENTS
[R,n]=size(chromeArray);
% INITIALIZE THE OUTPUT AS A R3 ARRAY
multiDimArray=zeros(1,1,n);
mk=0;
% LOOP THROUGH THE ROWS OF THE INPUT ARRAY
for i=1:1:R
    % CALL FORMATTING FUNCTION FOR EACH 1xN CHROMOSOME VECTOR
    % THE OUTPUT IS A MxN ARRAY
    [~,binArr,mki,m]=chromoSort(chromeArray(i,:));
    % INSERT THE R2 ARRAY INTO A THIRD DIM LAYER OF THE R3 ARRAY. EACH OF
    % THESE THIRD DIM SLICES CORRESPONDS TO A ROW IN THE FUNCTION'S INPUT
    % CHROMOSOME ARRAY
```

CHAGNGE! : mki SWITCHED TO m

```matlab
    multiDimArray(i,1:m,:)=binArr;
    mk=mk+mki;
end


end
```