Documentation of the MATLAB function `VARdet.m`

The function's arguments and returned quantities are listed in the help section of the function which is reproduced below.

```
function a=VARdet(phi,m,p)
% forms coefficients in a of the determinant of a canonical mxm VAR operator Phi(z)
% given matrix coefficients Phi_1 ... Phi_p in phi. Note sign convention
requires negation of these in the code.
% The (P+1) length vector a holds scalar coefficients of
det(Phi(z))=a_0 + a_1 z + ... + a_P z^P , P=m*p
%  with initial term monic a_0=1
% The method is to evaluate Phi(z) at points on the unit circle using the FFT,
% to evaluate the determinants of Phi(z) at these points,
% then to transform back to the coefficients of det(Phi(z)) using the inverse FFT
```

To be specific, the given array `phi` has elements `phi(i,j,k)` which are coefficients $\Phi_{i\,j\,k}$ for $i, j = 1 \ldots m$ and $k = 1 \ldots p$ of matrices Φ_k. These are the coefficients of a VAR(p) model for a process x_t, whose dimension m and order p are inferred from the size of `phi`. The model is:

$$x_t = \Phi_1 x_{t-1} + \Phi_2 x_{t-2} + \cdots + \Phi_p x_{t-p} + e_t. \tag{1}$$

The returned quantity `a` has elements `a(1)` ...`a(P+1)` where $P = m * p$. These are the coefficients $D_0, D_1 \ldots D_P$ of the polynomial of degree P defined by

$$D(z) = D_0 + D_1 z + \cdots + D_P z^P = \det\left(I - \Phi_1 z - \cdots - \Phi_p z^p\right).$$