```
function [azimuth backAzimuth] = slope2Az (m)
%  slope2Az.m - calculate the azimuth of a line given the slope.
%   Input: slope
%
%   Output: azimuth from north in degrees, m in radians from +X-axis.
%
% Syntax:  [azimuth] = slope2Az (m)
%
% %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
% Other m-files required:
%
% MAT-files required: none
%
% See also:
% ************************************************************
% Author: Peter J Dailey
% 140 Sunset Drive Charleston WV 25301
% email: daileypj@mac.com
% Website: http://
% Last revision: 27-March-2010
% ************************************************************************
%
% Copyright 2010 by Peter J Dailey
%
% Permission to use, copy, modify, distribute, and sell this software and i
% documentation for any purpose is hereby granted without fee, provided tha
% the above copyright notice appear in all copies and that both that
% copyright notice and this permission notice appear in supporting
% documentation, and that the name of Peter J Dailey not be used in
% advertising or publicity pertaining to distribution of the software witho
% specific, written prior permission.
% Peter J Dailey makes no representations about the
% suitability of this software for any purpose.  It is provided "as is"
% without express or implied warranty.
% ************************************************************************
%
% Radians from the X-axis to in decimal degrees
az = atan(1/m)*180/pi;

% Insure 0 < Azimuth < 360
if az > 0 && az < 360
    azOut = az;
elseif az < 0
    azOut = az + 360;
elseif az > 360;
    azOut = az - 360;
end
% end if

% Back azimuth
azimuth = azOut;

if azimuth > 180
     backAzimuth   = azimuth - 180;
else
     backAzimuth   = azimuth + 180;
end

end %function

```