

```
% Function to decompose A into U (survival) and F (fertility) matrices.
%
% Input:
%   A = the projection matrix (n by n matrix)
%
% Output:
%   U = the survival matrix (n by n matrix)
%   F = the fertility matrix (n by n matrix)
%
```

```
function [U, F] = UFdecomp(A)
```

```
[n, n] = size(A);
```

```
U = A;
U(1, 2:n) = zeros(1, n-1);
F = A-U;
```

```
end
```