meanPolyQFC

Basis or trend function to compute the H matrix as set of h(x) vectors for each predictor to apply a mean feature space as polynom approximated mean with beta coefficients. Compute H matrix to estimate beta.

Syntax

```
H = meanPolyQFC(X, degree)
```

Description

H = meanPolyQFC(X, degree) build polynom by passed data. Fires Frobenius Norm on matrix data.

Input Argurments

X matrix data.

degree polynom degree.

Output Argurments

H polynom.

Requirements

- Other m-files required: None
- Subfunctions: frobeniusNorm
- MAT-files required: None

See Also

- initQFC
- frobeniusNorm


```
function H = meanPolyQFC(X, degree)
    % get number of observations
    [~, ~, N] = size(X);

    % returns only ones if p = 0
    H = ones(degree + 1, N);

    % compute polynom for degrees > 0
    if degree > 0
        for n = 1:N
            H(2,n) = frobeniusNorm(X(:,:,n), false);
        end
    end

    % compute none linear polynoms if degree > 1
    if degree > 1
        for p = 2:degree
            H(p+1,:) = H(2,:).^p;
        end
    end
end
```

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