Prime

Created 11-18-18 By Scott Murakami This user-defined function will determine all prime numbers between m and n (defined by user) with the function pr = prime(m,n), where the input arguments are positive integers and the output argument, pr, is a vector with prime numbers.

```
function pr = prime(m,n)
    x=1;
    y=abs(n);
    h=0;

    a=sign(n);
    b=sign(m);
    if a == -1
        error('The input argument must be a positive integer')
        return
    end

    if b == -1
        error('The input argument must be a positive integer.')
        return
    end

    c = n-floor(n);
    d = m-floor(m);
    if c > 0
        error('The input argument must be a positive integer.')
        return
    end

    if d > 0
        error('The input argument must be a positive integer.')
        return
    end

    % n > m ?
    if n < m
        error('The value of n must be larger than the value of m.')
        return
    end

    %prime between m and n
    for k = m : y
        i = 0;
        for t = 2 : k/2
            num = k/t;
            a = num-floor(num);
            if a == 0
                i = 1;
            end
        end
        if (i == 0)
```

```
            pr(x) = k;
            x = x + 1;
            h=h+1;
        end
    end
    fprintf('Number of prime numbers between m and n: %f\n', h)
end
```

```
Error using rem
Not enough input arguments.

Error in prime (line 26)
    c = rem(n/(n+1));
```

Published with MATLAB® R2018a