```
function main
    clc

    xstart = 0; xstop = pi/2;
    n = 10;
    h = (xstop-xstart)/(n-1);
    x = linspace(xstart,xstop,n);
    [A,B] = fdiff(x,h,n);
    y = A \ B;
    display(y);
end
function [A,B] = fdiff(x,h,n)
    A = zeros(n);
    B = zeros(n,1);

    for i = 2:n-1
       A(i,i-1) = 1;
       A(i,i) = -2 + 4*h^2;
       A(i,i+1) = 1;
       B(i) = 4*h^2*x(i);
    end

    A(1,1) = 1; A(n,n-1) = 2;   A(n,n) = -2+4*h^2;
    B(1) = 4*h^2*x(1);  B(n) = 4*h^2*x(n);
end
```

```
y =

         0
    0.3491
    0.6769
    0.9648
    1.1989
    1.3720
    1.4843
    1.5433
    1.5631
    1.5626
```

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