```
f%% Given Data
x1 = [3 5];
x2 = [3 5 7];
x3 = [2 3 5 7];

y1 = [19 99];
y2 = [19 99 291];
y3 = [6 19 99 291];

xp = 4;   % calculate f(x=4)

Undefined function or variable 'f'.

Error in MS17Btech11013GrandAssignmentQ7 (line 1)
f%% Given Data
```

function calls

```
lagrangepolynoOrder1 = lagrangeinterpolation(x1,y1,xp)
lagrangepolynoOrder2 = lagrangeinterpolation(x2,y2,xp)
lagrangepolynoOrder3 = lagrangeinterpolation(x3,y3,xp)
```

Function declaration

```
function yp = lagrangeinterpolation(x,y,xp)
 n = length(x)-1;

 sum = 0;
 for i = 1:n+1
     pr = 1;
     for j = 1:n+1
         if j ~= i
             pr = pr * (xp-x(j))/(x(i)-x(j));
         end
     end
     sum = sum + y(i) *pr;
 end
 yp = sum;
end
```

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