CHE 1411L Week 12 Lab Assignment

Example 9.2 - using the function

```
intexample(4)
intexample(1)
intexample(2)
intexample(8)
intexample(12)
intexample(20)
intexample(100)
format long
intexample(10000)
intexample(50000)
```

```
ans =

    18


ans =

    48


ans =

    24


ans =

  16.500000000000000


ans =

  16.222222222222221


ans =

  16.080000000000023


ans =

  16.003200000000064


ans =
```

```
  16.000000319990953

ans =

  16.000000012868973
```

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```
function SUM = intexample(k)
% Computes the integral of y=3x^2-6x for x = 0 to 4

% k = Number of intervals

% Initialize the SUM (value of the integral)
SUM = 0;

% Calculate the increment value
increment = 4/k;

% Set the values for the first endpoint
x(1) = 0;
y(1) = 0;

% Calculate x and y values at the end of each interval, calculate the area
% for the interval, add to SUM
for i = 2: (k+1)
    x(i) = x(i-1) + increment;
    y(i) = 3*(x(i)^2)-6*x(i);
    SUM = SUM+.5*(y(i)+y(i-1))*(x(i)-x(i-1));
end
```

```
Not enough input arguments.

Error in intexample (line 10)
increment = 4/k;
```

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