

```

                                CSCI3656_ProblemSet11_2.m
function [ output ] = CSCI3656_ProblemSet11_2( h ) %(fx, x, x1, x2, h )

% Composite Trapezoid Rule
% Hard Coded values for 2a, Commented out Input parameters, simply comment
% the hard coded values out and reimplement the inputs
fx = [2.9596, 3.0857, 3.2183, 3.3577, 3.5042, 3.6582, 3.8201, 3.9903, 4.1693,
4.3547, 4.5552, 4.7631, 5.2115, 5.7070, 5.9739, 6.2546, 6.5496, 6.8598, 7.1859];
x = [0.9000, 0.9500, 1.0000, 1.0500, 1.1000, 1.1500, 1.2000, 1.2500, 1.3000,
1.3500, 1.4000, 1.4500, 1.5000, 1.5500, 1.6000, 1.6500, 1.7000, 1.7500, 1.8000,
1.8500, 1.9000];
x1 = 1.0;
x2 = 1.8;

xRounded = round(x, 5);
temp = 0;
startPoint = find(xRounded == x1, 1);
endPoint = find(xRounded == x2, 1)
increment = h / (x(2) - x(1));

for i = round(startPoint + increment): round(increment): round(endPoint -
increment)
    temp = temp + fx(i);
end

output = h/2 * (fx(startPoint) + fx(endPoint) + 2 * temp);

end

```

```
>> h = 0.1; CSCI3656_ProblemSet11_2( h )
```

```
endPoint =
```

```
19
```

```
ans =
```

```
3.8986
```

```
>> h = 0.2; CSCI3656_ProblemSet11_2( h )
```

```
endPoint =
```

```
19
```

```
ans =
```

```
3.9103
```

```
>>
```

```

                                CSCI3656_ProblemSet11_3.m
function [ output ] = CSCI3656_ProblemSet11_3( h ) %(fx, x, x1, x2, h )

% Composite Simpson's Rule
% Hard Coded values for 2a, Commented out Input parameters, simply comment
% the hard coded values out and reimplement the inputs
fx = [2.9596, 3.0857, 3.2183, 3.3577, 3.5042, 3.6582, 3.8201, 3.9903, 4.1693,
4.3547, 4.5552, 4.7631, 5.2115, 5.7070, 5.9739, 6.2546, 6.5496, 6.8598, 7.1859];
x = [0.9000, 0.9500, 1.0000, 1.0500, 1.1000, 1.1500, 1.2000, 1.2500, 1.3000,
1.3500, 1.4000, 1.4500, 1.5000, 1.5500, 1.6000, 1.6500, 1.7000, 1.7500, 1.8000,
1.8500, 1.9000];
x1 = 1.0;
x2 = 1.8;

xRounded = round(x, 5);
temp = 0;
startPoint = find(xRounded == x1, 1);
endPoint = find(xRounded == x2, 1)
increment = h / (x(2) - x(1));
temp2 = 0;

for i = round(startPoint + increment): round(2 * increment): round(endPoint -
increment)
    temp = temp + fx(i);
end

for i2 = round(startPoint + (2 * increment)): round(2 * increment): round(endPoint
- (2 * increment))
    temp2 = temp2 + fx(i2);
end

output = h/3 * ((fx(startPoint)) + (fx(endPoint)) + (4 * temp) + (2 * temp2));

end

```

PS11_Problem3_Transcript.txt

```
>> h = 0.1; CSCI3656_ProblemSet11_3( h )
```

```
endPoint =
```

```
19
```

```
ans =
```

```
3.8947
```

```
>> h = 0.2; CSCI3656_ProblemSet11_3( h )
```

```
endPoint =
```

```
19
```

```
ans =
```

```
3.9127
```