

EGME 2050 Computational Methods  
Spring 2022

Lab Week 14  
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### **Problem 1: Section 32.9**

```
function [SL, SR] = myRiemann(x,y)
    %Initialize the value of SL and SR
    SL=0;
    SR=0;

    %Left Riemann Sum
    for i=1:length(x)-1
        SL=SL+(x(i+1)-x(i))*y(i);
    end

    %Right Riemann Sum
    for i=1:length(x)-1
        SR=SR+(x(i+1)-x(i))*y(i+1);
    end
end
```

## **Problem 2: Section 32.10**

```
%Assign values to rho and r, convert r to m
r =1000*[0,800,1200,1400,2000,3000,3400,3600,4000,5000,5500,6370];
rho=[13000,12900,12700,12000,11650,10600,9900,5500,5300,4750,4500,3300];

%Creates anonymous function, with ro as the variable
f=@(r,x) 4*pi*x*r^2;
m=0;
    for i=1:(length(r)-1)
        %Trapezoid rule
        m=m+(r(i+1)-r(i))*(f(r(i),rho(i))+f(r(i+1),rho(i+1)))/2;
    end
```