angle = [0,0.5233,0.785,1.046,1.57,2.093,3.14,6.28,1.347,2.144]; % Reading angle

l = 10;

i = 1;

while i<=l

angle1 = angle(i);

c = 1; % Initially assign value 1

n = 0;

new = 0;

old = 0;

count = 0;

y1 = zeros(1,21);

while n<20

term = myterm(n,angle1);

if n == 0

old = term; % Updating SOld

c = round(new - old,6); % Calculating E

else

new = old + term; % CAdding term to series

c = round(new - old,6); % Calculating E

old = new; % Updating SOld value

end

if count == 0

if c == 0

count = n;

end

end

n = n + 1;

end

fprintf("\n The sin of %.2f is %.8f, and convergent value if %f \n", angle1, old, count);% Printing resultant values

i = i+1;

end

fprintf("%f", y1);

x = linspace(1,19,1);

figure(1)

plot(y1)

function [term] = myterm(n,angle)

term = ( ((-1)^n) / (factorial((2\*n) + 1)) ) \* ( angle ^ ((2\*n) + 1) );

end

angle = [0,0.5233,0.785,1.046,1.57,2.093,3.14,6.28,1.347,2.144]; % Reading angle

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while i<=l

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c = round(new - old,6); % Calculating E

old = new; % Updating SOld value

end

if count == 0

if c == 0

count = n;

end

end

n = n + 1;

end

fprintf("\n The cos of %.2f is %.8f, and convergent value if %f \n", angle1, old, count);% Printing resultant values

i = i+1;

end

function [term] = myterm(n,angle)

term = ( ((-1)^n) / (factorial((2\*n))) ) \* ( angle ^ ((2\*n) ) );

end