x = input("Enter values of xi:");

y = input("Enter values of yi:");

X = input("Enter the value of X :");

n = length(x);

h = x(2) - x(1);

D = zeros(n);

for i = 1:n

D(i,1) = y(i);

end

for j = 2:n

for i = n:-1:j

D(i,j) = D(i,j-1) - D(i-1,j-1);

end

end

Y = y(n);

product = 1;

fact = 1;

p = (X - x(n)) / h;

for i = 1:n-1

product = product \* (p + i - 1);

fact = fact \* (1 / i);

Y = Y + product \* fact \* D(n, i + 1);

end

disp(Y);