```matlab
% Name- sarthak patil
% Roll no -228
n=input('Enter the number of equation=');
for i=1:1:n
    x(i)=input('Enter the value of x=');
    y(i)=input('Enter the value of y=');
end
xg=input('Enter the value of xg=');
h=x(2)-x(1);
for j=1:1:n-1
    for i=1:1:n-j
        if j==1
            nf(i,j)=y(i+1)-y(i);
        else
            nf(i,j)=nf(i+1,j-1)-nf(i,j-1);
        end
    end
end
 yg=y(i);
 for j=1:1:n-1
    term=nf(1,j);
    u=(xg-x(1))/h;
    for k=1:1:j
        term=term*u/k;
        u=u-1;
    end
    yg=yg+term
 end
fprintf('x(%d)=%f',yg);

% OUTPUT:-
% newton_forward_difference
% Enter the number of equation=8
% Enter the value of x=2
% Enter the value of y=19
% Enter the value of x=3
% Enter the value of y=48
% Enter the value of x=4
% Enter the value of y=99
% Enter the value of x=5
% Enter the value of y=178
% Enter the value of x=6
% Enter the value of y=291
% Enter the value of x=7
% Enter the value of y=444
% Enter the value of x=8
% Enter the value of y=643
% Enter the value of x=9
% Enter the value of y=894
% Enter the value of xg=3.5
%
```

```
% yg =   62.5000
% yg =   70.7500
% yg =   70.3750
% yg =   70.3750
% yg =    70.3750
% yg =   70.3750
% yg = 70.3750
%
% x(7.037500e+01)=>>
```