**PRACTICAL NO – 2(A)**

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Name :

Roll No :

Aim : Program for Newton’s Forword interpolation

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function [**yest**]=newtonfor(**x**, **y**, **xest**)

n=length(**y**);

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

p=(**xest**-**x**(1))/h;

for i=1:n-1

d(i,1)=**y**(i+1)-**y**(i);

end

for j=2:n-1

for i=1:n-j

d(i,j)=d(i+1,j-1)-d(i,j-1);

end

end

e(1)=p;

for j=2:n-1

e(j)=e(j-1)\*(p+1-j)/j;

end

**yest**=0

for i=1:n-1

**yest**=**yest**+e(i)\*d(1,i);

end

**yest**=**yest**+**y**(1);

printf('Estimated value of Using Newtons Forward Difference fourmula\n');

printf('\n-------------------------------------------------------------');

printf('\n Estimated value of y=%g when value of x=%g\n',**yest**,**xest**);

endfunction

**OUTPUT :**

-1->x=[45,50,55,60,65];

-1->y=[29,24,21,19,17];

-1->xest=46;

-1->newtonfor(x,y,xest)

Estimated value of Using Newtons Forward Difference fourmula

Estimated value of y=27.792 when value of x=46

ans = 27.792