

A Report on Activity based Learning on the Topic

Milne’s predictor and corrector method

**Under the Guidance of**

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# Maximum Marks Marks Secured

10

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**Date of Submission: 27/02/2023 Signature of the Faculty**

# C code to calculate the eulers method:

#include<stdio.h> #include<math.h> #include<string.h> float fun(float,float); main()

{

int i,j,c;

float x[100],y[100],h,m[100],m1,m2,a,s[100],w; printf("\n C program for Modified Euler Method \n\n"); printf(" Enter the initial value of x:");

scanf("%f",&x[0]);

printf("\n Enter the value of increment h:"); scanf("%f",&h);

printf("\n Enter the final value of x:"); scanf("%f",&a);

printf("\n Enter the initial value of the variable y :"); scanf("%f",&y[0]);

s[0]=y[0];

for(i=1;x[i-1]<a;i++)

{

w=100.0;

x[i]= x[i-1]+h; m[i]=fun(x[i-1],y[i-1]); c=0;

while(w>0.0001)

{

m1=fun(x[i],s[c]); m2=(m[i]+m1)/2;

s[c+1]=y[i-1]+m2\*h;

w=s[c]-s[c+1]; w=fabs(w); c=c+1;

}

y[i]=s[c];

}

printf("\n\n The respective values of x and y are\n x \t y\n\n"); for(j=0;j<i;j++)

{

printf(" %f\t%f",x[j],y[j]); printf("\n");

}

}

float fun(float a,float b)

{

float c; c=a\*a+b; return(c);

}

# Output:

