```c
#include<stdio.h>
int main()
{
float x[10], y[10], d[10], xx, sum, w;
int n, i,j, r;
r=3;
xx=0.29+( (r+3) /100.);
printf("Enter the number of interpolating points\n");
scanf( "%d", &n);
n=n-1;
printf("Enter the value of interpolating points\n");
for(i=0; i<=n;i++)
{
printf("Enter the value of x[%d]=", i) ;
scanf("%f", &x[i]) ;
}
printf("\n Enter the values of y\n");
for(i=0; i<=n;i++)
{
printf(" Enter the value of y[%d]=", i);
scanf( "%f", &y[i]);
}
for(i=0; i<=n;i++)
{
d[i]=1;
for(j=0;j<=n;j++)
{
if(j==i)
d[i]=d[i]* (xx-x[i]) ;
else
d[i]=d[i]*(x[i]-x[j]);
}
}
w=1;
for(i=0;i<=n;i++)
w=w* (xx-x[i]) ;
sum=0;
for(i=0;i<=n;i++)
sum=sum+(y [i]/d[i]);
sum=w*sum;
printf(" the value of f(%4.2f) =%2.5f",xx,sum);
return(0);
}
//*output*//
Enter the number of interpolating points
7
Enter the value of x[0]=0.24
Enter the value of x[1]=0.30
Enter the value of x[2]=0.42
Enter the value of x[3]=0.50
Enter the value of x[4]=0.61
Enter the value of x[5]=0.69
Enter the value of x[6]=0.83

 Enter the values of y
 Enter the value of y[0]=0.21462
 Enter the value of y[1]=0.28493
 Enter the value of y[2]=0.39617
 Enter the value of y[3]=0.43752
 Enter the value of y[4]=0.49031
```

```
 Enter the value of y[5]=0.55286
 Enter the value of y[6]=0.69756
 the value of f(0.35) =0.33921
?
```