```c
#include<stdio.h>
int main()
{
float x[10],y[10],d[10][10],term,sum,xx;
int i,j,n,r;
r=0;
xx=0.29+((r+3)/100.);
printf("enter the number of interpolating points \n");
scanf("%d",&n);
n=n-1;
printf("enter the interpolating points\n");
for(i=0;i<=n;i++)
{
printf("enter x[%d]=",i);
scanf("%f",&x[i]);
}
printf("enter the functional values\n");
for(i=0;i<=n;i++)
{
printf("enter y[%d]=",i);
scanf("%f",&y[i]);
}
for(i=0;i<=n;i++)
d[i][0]=y[i];
for(j=1;j<=n;j++)
{
for(i=0;i<=n-j;i++)
d[i][j]=(d[i][j-1]-d[i+1][j-1])/(x[i]-x[i+j]);
}
sum=y[0];
term=(xx-x[0]);
for(j=1;j<=n;j++)
{
sum=sum+term*d[0][j];
term=term*(xx-x[0]);
}
printf("the value of H(%4.2f)=%7.5f \n",xx,sum);
return(0);
}
```

```
\\output\\
enter the number of interpolating points
7
enter the interpolating points
enter x[0]=0.24
enter x[1]=0.30
enter x[2]=0.42
enter x[3]=0.50
enter x[4]=0.61
enter x[5]=0.69
enter x[6]=0.83
enter the functional values
enter y[0]=0.21462
enter y[1]=0.28493
enter y[2]=0.39617
```

```
enter y[3]=0.43752
enter y[4]=0.49031
enter y[5]=0.55286
enter y[6]=0.69756
the value of H(0.32)=0.29910
```