n=input("enter the value of n");

%h=input("Enter the value of h:');

for i=1:1:n

if i==1||i==n

for j=1:1:n

u(i,j)=input("Enter the value of u(i,j)=");

end

else

for j=1:1:n

if j==1||j==n

u(i,j)=input("Enter the value of u(i,j)");

else

u(i,j)=0;

end

end

end

end

itr=input("Enter the number of iterations=");

for k=1:1:itr

for i=2:1:n-1

for j=2:1:n-1

u(i,j)=(1/4)\*(u(i+1,j)+u(i-1,j)+u(i,j+1)+u(i,j-1)); end

end

end

for i=2:1:n-1

for j=2:1:n-1

fprintf('%f\n',u(i,j));

end

end  
  
  
  
  
OUTPUT

enter the value of n4

Enter the value of u(i,j)=60

Enter the value of u(i,j)=40

Enter the value of u(i,j)=20

Enter the value of u(i,j)=0

Enter the value of u(i,j)60

Enter the value of u(i,j)10

Enter the value of u(i,j)60

Enter the value of u(i,j)20

Enter the value of u(i,j)=60

Enter the value of u(i,j)=50

Enter the value of u(i,j)=40

Enter the value of u(i,j)=30

Enter the number of iterations=15

>>  
43.333333

26.666667

46.666667

33.333333