

```
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
end
```

%output

```
Laplace
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
```