

PROGRAM NAME: - BISECTION BY ITERATION METHOD

EQUATION

```
function y=f(x)
y=-0.9*x*x+1.7*x+2.5;
```

PROGRAM

```
x1=input('Enter value of initial guess x1=');
x2=input('Enter value of initial guess x2=');
n=input('Enter the number of iterations: ');
y1=f(x1);
y2=f(x2);
while(y1*y2>0)
    x1=input('Enter value of initial guess x1=');
    x2=input('Enter value of initial guess x2=');
    y1=f(x1);
    y2=f(x2);
end;
for i=1:n
    x3=(x1+x2)/2;
    y3=f(x3);
    if (y1*y3<0)
        x2=x3;
        y2=y3;
    else
        x1=x3;
        y1=y3;
    end
end
fprintf('the root x3=%f',x3);
```

OUTPUT

Enter value of initial guess x1=2.8

Enter value of initial guess x2=3

Enter the number of iterations: 3

The root x3=2.875000