

## PROGRAM NAME: - FALSE POSITION BY ITERATION METHOD

### EQUATION

```
function y=f(x)
y=(sin(x)-x+2);
```

### PROGRAM

```
x1=input('Enter the value of initial guess x1:');
x2=input('Enter the value of another guess x2:');
n=input('Enter the number of iterations:');
y1=f(x1);
y2=f(x2);
while(y1*y2>0)
    fprintf('Enter value of x1 again = ');
    fprintf('Enter value of x2 again = ');
    y1=f(x1);
    y2=f(x2);
end
for i=1:n
    x3=((x2*y1)-(x1*y2))/(y1-y2);
    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 the value of initial guess x1:2

Enter the value of another guess x2:3

Enter the number of iterations:5

The root x3=2.554196