Find the square root of a number

AIM:

To write a program to find the square root of a number.

Equipments Required:

1. Hardware – PCs
2. Anaconda – Python 3.7 Installation / Moodle-Code Runner

Algorithm

1. Define a function.
2. Assign number_iters = 50 in the function to perform 50 iteratios.
3. Set i = 0.
4. Calculate number = 0.5 * (number + a / number) for 50 iterations.
5. Print the square root of the number.

Program:

```
#square root of the number
#developed by:Popuri Sravani
#register number:23006561
n=int(input())
approx=0.5*n
for i in range(0,50):
    b=0.5*(approx+n/approx)
    approx=b
print("Square root of the number:", b)
```

Output:

```
#square root of the number
#developed by:Popuri Sravani
#register number:23006561
n=int(input())
approx=0.5*n
for i in range(0,50):
    b=0.5*(approx+n/approx)
    approx=b
print("Square root of the number:", b)
```

	Input	Expected	Got	
✔	10	Square root of the number: 3.162277660168379	Square root of the number: 3.162277660168379	✔
✔	4	Square root of the number: 2.0	Square root of the number: 2.0	✔
✔	64	Square root of the number: 8.0	Square root of the number: 8.0	✔

Passed all tests! ✔

Result:

Thus the program to find the square root for the given number(newton's method) using function is written and verified using python programming.