

```
1.  #include <stdio.h>
2.
3.  extern double sqrt(double x) __attribute__((weak));
4.
5.  void func()
6.  {
7.      if(sqrt)
8.          printf("%f\n", sqrt(10.0));
9.      else
10.         printf("no sqrt\n");
11.  }
12.
13.  int main()
14.  {
15.      func();
16.      return 0;
17.  }
```

```
1.  walterzh@walterzh-Precision-T1650:~/work2/temp/weak$ gcc -o weak weak.c
2.  walterzh@walterzh-Precision-T1650:~/work2/temp/weak$ ./weak
3.  no sqrt
```

可以理解

```
1.  walterzh@walterzh-Precision-T1650:~/work2/temp/weak$ gcc -o weak weak.c -lm
2.  walterzh@walterzh-Precision-T1650:~/work2/temp/weak$ ./weak
3.  no sqrt
```

这是为什么？

```
1.  walterzh@walterzh-Precision-T1650:~/work2/temp/weak$ cat weak.c
2.  #include <stdio.h>
3.
4.  extern double sqrt(double x) __attribute__((weak));
5.
6.  void func()
7.  {
8.      if(sqrt)
9.          printf("%f\n", sqrt(10.0));
10.     else
11.         printf("no sqrt\n");
12.  }
13.
14.  walterzh@walterzh-Precision-T1650:~/work2/temp/weak$ gcc -fPIC -shared -o weak.so weak.c -g
```

```

1. walterzh@walterzh-Precision-T1650:~/work2/temp/weak$ cat weak_main.c
2. #include <stdio.h>
3.
4. double sqrt(double x)
5. {
6.     printf("sqrt ok\n");
7.     return 1.0;
8. }
9.
10. int main()
11. {
12.     func();
13.     return 0;
14. }
15.
16. walterzh@walterzh-Precision-T1650:~/work2/temp/weak$ gcc weak_main.c ./weak.
    so -g

```

运行结果

```

1. walterzh@walterzh-Precision-T1650:~/work2/temp/weak$ ./a.out
2. 3.162278

```

太奇怪了!!!

```

1. walterzh@walterzh-Precision-T1650:~/work2/temp/weak$ cat weak_main.c
2. #include <stdio.h>
3.
4. //double sqrt(double x)
5. //{
6. //    printf("sqrt ok\n");
7. //    return 1.0;
8. //}
9.
10. int main()
11. {
12.     func();
13.     return 0;
14. }
15.
16. walterzh@walterzh-Precision-T1650:~/work2/temp/weak$ gcc weak_main.c ./weak.
    so -g
17. walterzh@walterzh-Precision-T1650:~/work2/temp/weak$ ./a.out
18. no sqrt

```

在weak_main.c中定义的sqrt()触发已经生成的weak.so中的sqrt被动态链接到libc中的
sqrt !