

Python 导论作业三

学号: 201718013727073

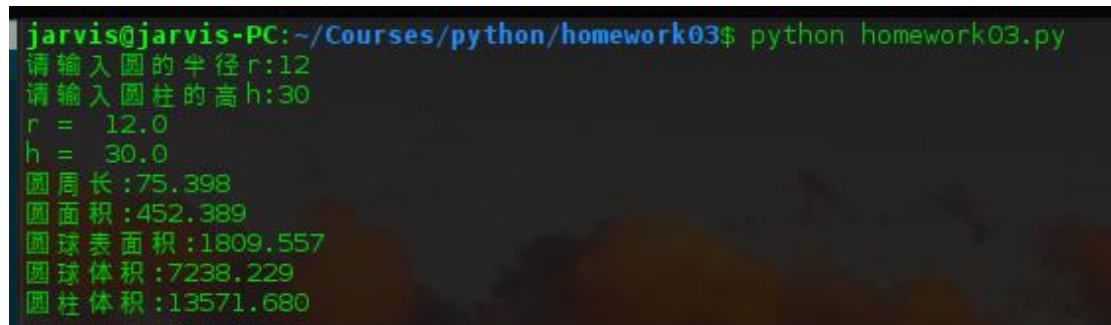
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- 一、 编写程序。从键盘输入圆半径 r ，输入圆柱高 h ，求圆周长、圆面积、圆球表面积、圆球体积、圆柱体积，并输出结果。

Homework03-1.py:

```
#*****homework03-1*****  
from math import *  
radius = float(input("请输入圆的半径 r:"))  
height = float(input("请输入圆柱的高 h:"))  
print("r = ", radius)  
print("h = ", height)  
print("圆周长:%.3f" %(2*pi*radius))  
print("圆面积:%.3f" %(pi*radius**2))  
print("圆球表面积:%.3f" %(4*pi*radius**2))  
print("圆球体积:%.3f" %(4/3*pi*radius**3))  
print("圆柱体积:%.3f" %(pi*radius**2*height))  
print()
```

运行截图:



```
jarvis@jarvis-PC:~/Courses/python/homework03$ python homework03.py  
请输入圆的半径 r:12  
请输入圆柱的高 h:30  
r = 12.0  
h = 30.0  
圆周长: 75.398  
圆面积: 452.389  
圆球表面积: 1809.557  
圆球体积: 7238.229  
圆柱体积: 13571.680
```

- 二、 编写程序。从键盘输入华氏温度，要求输出摄氏温度。公式为： $c=5/9*(F-32)$

Homework03-2.py:

```
#*****homework03-2*****  
F = float(input("请输入华氏温度 F:"))  
print("F = ", F)  
print("摄氏温度为:%.3f" %(5/9*(F-32)))  
print()
```

运行截图:

```
请输入华氏温度 F:232
F = 232.0
摄氏温度为:111.111

jarvis@jarvis-PC:~/Courses/python/homework03$
```

三、 练习使用 Python 帮助。查看 random 模块内容；查看该模块中 randrange 函数的说明。

Random 模块的内容如下：

```
jarvis@jarvis-PC:~/Courses/python/homework03$ python
Python 3.6.4 |Anaconda, Inc.| (default, Jan 16 2018, 18:10:19)
[GCC 7.2.0] on linux
Type "help", "copyright", "credits" or "license" for more information.
>>> import math
>>> import random
>>> dir(random)
['BPF', 'LOG4', 'NV_MAGICCONST', 'RECIP_BPF', 'Random', 'SG_MAGICCONST', 'SystemRandom', 'TWOPI', '_BuiltinMethodType', '_MethodType', '_Sequence', '_Set', '__all__', '__builtins__', '__cached__', '__doc__', '__file__', '__loader__', '__name__', '__package__', '__spec__', '_acos', '_bisect', '_ceil', '_cos', '_e', '_exp', '_inst', '_itertools', '_log', '_pi', '_random', '_sha512', '_sin', '_sqrt', '_test', '_test_generator', '_urandom', '_warn', 'betavariate', 'choice', 'choices', 'expovariate', 'gammavariate', 'gauss', 'getrandbits', 'getstate', 'lognormvariate', 'normalvariate', 'paretovariate', 'randint', 'random', 'randrange', 'sample', 'seed', 'setstate', 'shuffle', 'triangular', 'uniform', 'vonmisesvariate', 'weibullvariate']
>>> help(random.randrange)
```

Randrange 函数的说明：

```
Help on method randrange in module random:

randrange(start, stop=None, step=1, _int=<class 'int'>) method of random.Random instance
    Choose a random item from range(start, stop[, step]).

    This fixes the problem with randint() which includes the
    endpoint; in Python this is usually not what you want.
(END)
```