

Assignment 1

1. The radius of a circle is 5.5. Write a script to compute the area of a circle.

```
In [2]: PI = 3.14
r = 5.5
area = PI * (r**2)
area

Out[2]: 94.985
```

2. Write a program where Python prints your name, then print them in reverse order with a comma between them. Put this in the same cell.

For example:

Sophia Barrett
Barrett, Sophia

```
In [4]: print("Hanh Nguyen")
print("Nguyen, ", "Hanh")

Hanh Nguyen
Nguyen, Hanh
```

3. Write a program to test if a number is divisible by 5.

```
In [13]: n = float(input("Enter a number: "))
m = n % 5
print("It is", m == 0, "to say that", n, "is divisible by 5")

Enter a number: 9
It is False to say that 9.0 is divisible by 5
```

4. What is the output of the following program?

```
a = 1
b = a 2
c = 2 b + 1
print(a)
print(b)
print(c)
```

Answer:

```
print(a)
1

print(b)
2

print(c)
5
```

```
In [14]: # test the answer
a = 1
b = a * 2
c = 2 * b + 1
print(a)
print(b)
print(c)

1
2
5
```

5. What is the output of the following program?

```
a = 2
b = a * 2
c = b ** a
a = c % 2
print(a)
print(b)
print(c)
```

Answer

```
print(a)
0

print(b)
4

print(c)
16
```

```
In [20]: # test the answer
a = 2
b = a * 2
c = b ** a
a = c % 2 # value of a is overwritten here
print(a)
print(b)
print(c)

0
4
16
```

6. What is the output of the following program?

```
a = 5
b = a // 2
c = a / 2
a = a % 2
print(a)
print(b)
print(c)
```

Answer

```
print(a)
1

print(b)
2

print(c)
2.5
```

```
In [21]: # test the answer
a = 5
b = a // 2
c = a / 2
a = a % 2 # the value of a is overwritten here
print(a)
print(b)
print(c)

1
2
2.5
```

7. Type each of the following commands. Note each response.

```
print("Hello, world!")
print("Hello", "world!")
print(3)
print(3.0)
print(2 + 3)
print(2.0 + 3.0)
print(2 * 3)
print(2 ** 3)
print(7 / 3)
print(7 // 3)
```

```
In [23]: print("Hello, world!") # comma is included --> Hello, world!
print("Hello", "world!") # comma is NOT included, only the two words -->
Hello world!
print(3) # integer --> 3
print(3.0) # float --> 3.0
print(2 + 3) # summation of 2 integers --> 5
print(2.0 + 3.0) # summation of 2 floats --> 5.0
print(2 * 3) # multiplication --> 6
print(2 ** 3) # exponentiation --> 8
print(7 / 3) # division --> 2.33333...
print(7 // 3) # floor division --> 2

Hello, world!
Hello world!
3
3.0
5
5.0
6
8
2.3333333333333335
2
```

8.

Create a program with a name and age. Then have it print out a message addressed to name that tells them the year that they will turn 100 years old.

```
In [30]: name = input("What is your name? ")
age = int(input("How old are you? "))
year = 2020 + 100 - age
print("Hey, you will turn 100 years old in", year, ", ", name, ".")

What is your name? Hanh
How old are you? 30
Hey, you will turn 100 years old in 2090 , Hanh .
```

9. Create a sequence of numbers from 3 to 19, but increment by 2.

```
In [32]: list(range(3, 19, 2))

Out[32]: [3, 5, 7, 9, 11, 13, 15, 17]
```

10. Try to solve this problem on your own first, then check your results with python.

```
a = 21
b = 10
c = 0
```

```
c = a + b
print "Line 1 - Value of c is ", c
--> Answer: Line 1 - Value of c is 31
```

```
c += a
print "Line 2 - Value of c is ", c
--> Answer: Line 2 - Value of c is 52
```

```
c * = a
print "Line 3 - Value of c is ", c
--> Answer: Line 3 - Value of c is 1092
```

```
c /= a
print "Line 4 - Value of c is ", c
--> Answer: Line 4 - Value of c is 52
```

```
c = 2
c %= a
print "Line 5 - Value of c is ", c
--> Answer: Line 5 - Value of c is 2
```

```
c ^ = a
print "Line 6 - Value of c is ", c
--> Answer: Line 6 - Value of c is 2097152
```

```
c //= a
print "Line 7 - Value of c is ", c
--> Answer: Line 7 - Value of c is 99864
```

```
In [1]: a = 21
b = 10
c = 0

c = a + b
print("Line 1 - Value of c is", c)

c += a
print("Line 2 - Value of c is", c)

c * = a
print("Line 3 - Value of c is", c)

c /= a
print("Line 4 - Value of c is", c)

c = 2
c %= a
print("Line 5 - Value of c is", c)

c ** = a
print("Line 6 - Value of c is", c)

c //= a
print("Line 7 - Value of c is", c)

Line 1 - Value of c is 31
Line 2 - Value of c is 52
Line 3 - Value of c is 1092
Line 4 - Value of c is 52.0
Line 5 - Value of c is 2
Line 6 - Value of c is 2097152
Line 7 - Value of c is 99864
```

```
In [ ]: 
```

```
In [ ]: 
```

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In [ ]: 
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In [ ]: 
```