

HW-WEEK1-#Bahar Sohrabi#(40113841054157)

1.No,the literal 4 is not valid Python expression. A valid Python expression would include an operator, such as 2+3 or 5/2.

2.No, x is not a valid Python expression. It is a placeholder for a value that needs to be defined.

3.Yes, it is.

4.The unary + operator has no effect when applied to a numeric expression. It is simply a placeholder that does nothing to the value of the expression.

5. *,/,//,%,+,-,=

6. x=2

a)x b)x c)2 d)x+1

e)TypeError:because 'x' is str and 1 is int .We cant concatenate them to each other

f)3

7. $i1=2$, $i2=5$, $i3=-3$, $d1=2.0$, $d2=5.0$, $d3=-0.5$

a) $\text{print}(i1+i2)$ answer=7

b) $\text{print}(i1/i2)$ answer=0.4

c) $\text{print}(i1//i2)$ answer=0

d) $\text{print}(i2/i1)$ answer=2.5

e) $\text{print}(i2//i1)$ answer=2

f) $\text{print}(i1*i3)$ answer=-6

g) $\text{print}(d1+d2)$ answer=7.0

h) $\text{print}(d1/d2)$ answer=0.4

i) $\text{print}(d2/d1)$ answer=2.5

j) $\text{print}(d3*d1)$ answer=-1.0

k) $\text{print}(d1+i2)$ answer=7.0

l) $\text{print}(i1/d2)$ answer=0.4

m) $\text{print}(d2/i1)$ answer=2.5

n) $\text{print}(i2/d1)$ answer=2.5

o) $\text{print}(i1/i2*d1)$ answer=0.8

p) $\text{print}(d1*i1/i2)$ answer=0.8

q) $\text{print}(d1/d2*i1)$ answer=0.8

r)print(i1*d1/d2) answer=0.8

s)print(i2/i1*d1) answer=5.0

t)print(d1*i2/i1) answer=5.0

u)print(d2/d1*i1) answer=5.0

v)print(i1*d2/d1) answer=5.0

8. Nothing-# is using in commenting

9. i1=2 , i2=5 , i3=-3 , d1=2.0 , d2=5.0 , d3=-0.5

a)print(i1+(i2*i3)) answer=-13

b)print(i1*(i2+i3)) answer=4

c)print(i1/(i2+i3)) answer=1

d)print(i1//(i2+i3)) answer=1

e)print(i1/i2+i3) answer=-2.6

f)print(i1//i2+i3) answer=-3

g)print(3+4+5/3) answer=8.666667

h)print(3+4+5//3) answer=8

i)print((3+4+5)/3) answer=4

j)print((3+4+5)//3) answer=4

k)print(d1+(d2*d3)) answer=-0.5

l)print(d1+d2*d3) answer=-0.5
m)print(d1/d2-d3) answer=0.9
n)print((d1/(d2-d3)) answer=0.36363636
o)print(d1+d2+d3/3) answer=6.8333333
p)print((d1+d2+d3)/3) answer=2.1666667
q)print(d1+d2+(d3/3)) answer=6.833333
r)print(3*(d1+d2)*(d1-d3)) answer=52.5

10.#

11. Python comments end with a # symbol.

12. It depends on the context. Too many comments can make code difficult to read, while too few comments can make code difficult to understand. In general, it is best to strike a balance between the two and provide enough comments to explain the purpose of the code without cluttering it up.

13. Comments are used to explain code, provide context, and make code easier to read and understand. They can also be used to document changes, alert other developers of potential issues, and provide helpful hints or tips.

14. Human readability is important because it allows people to easily understand the code. If the code is not readable, it can be difficult to debug and maintain. Additionally, if the code is not readable, it can be difficult for other developers to understand and use. Readable code also makes it easier for developers to collaborate on projects, as they can more easily understand each others contributions.

15.

Name Error: Occurs when a variable is used that has not been assigned.

Value Error: Occurs when a value is passed to a function that the function is not designed to handle.

ZeroDivisionError: Occurs when an attempt is made to divide by zero.

Indentation Error: Occurs when incorrect indentation is used in the code of an error-free Python program.

Overflow Error: Occurs when an operation produces a result that is too large to be stored in the available memory.

Syntax Error: Occurs when incorrect syntax is used in the code of an error-free Python program.

Type Error: Occurs when an operation or function is applied to an object of an inappropriate type, such as trying to convert the string `((two))` to an integer.

16.

1)no error

2)no error

3)no error

4)logic error

5)no error

6)runtime exception

7)syntax error

8)no error

17.

(a) $x = x + 1$

(b) $x = x / 2$

(c) $x = x - 1$

(d) $x = x + y$

(e) $x = x - (y + 7)$

(f) $x = 2 * x$

(g) $\text{number_of_closed_cases} = \text{number_of_closed_cases} + 2 * \text{ncc}$

(a) $x++$ (b) $x/=2$ (c) $x--$ (d) $x+=y$ (e) $x-=y+7$ (f) $x*=2$ (g) $\text{ncc}+=2*\text{ncc}$

18.

$x1 = 2$

$x2 = 2$

$x1 += 1$

$x2 -= 1$

$\text{print}(x1)$

$\text{print}(x2)$

Why does the output appear as it does?

3 1

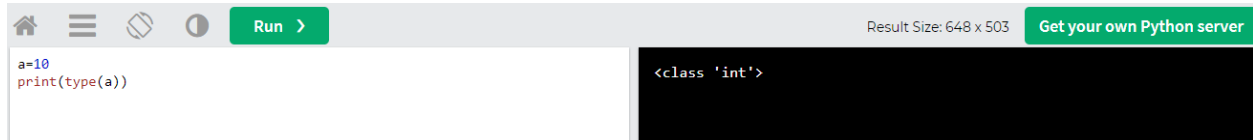
The output appears as it does because the += operator adds 1 to the value of x1, while the -= operator subtracts 1 from the value of x2.

19.

(a) The program does not produce the intended result because it does not calculate the circumference of the circle using the formula provided.

(b) The program can be repaired by adding a line of code to calculate the circumference using the formula provided: $C = 2 * \text{PI} * r$. This line should be added before the print statement so that it is calculated before printing

20. Write a Python program that receives a number and specifies the data type



The image shows a Python IDE interface. At the top, there is a toolbar with icons for home, menu, undo, redo, and a 'Run' button. To the right of the toolbar, it says 'Result Size: 648 x 503' and 'Get your own Python server'. The main area is split into two panes. The left pane contains the code: `a=10` and `print(type(a))`. The right pane shows the output: `<class 'int'>`.

```
a=10
print(type(a))
```

```
<class 'int'>
```