

1. Which Python version you are using ?
2. What is the type of error that occurs when....
  - a. You are quoting only one side of a string – SyntaxError
  - b. You are trying to subtract a number from a string –
  - c. You are dividing by zero –
  - d. You are using a variable that does not exist –
  - e. You press CTRL + C when the program asks for input (via input function) –
  - f. You offset a statement (using tab for ex.) without using IF: –
  - g. After IF: , you offset your first statement with 4 spaces and the rest with only 2 spaces –
  - h. You do not close a parenthesis –
  - i. You are trying to use an exclamation mark (!) as an operator –
  - j. You are typing an extra comma in the print(1, 2 ,3) command –

3. What error occurs when you are to use a variable before something is assigned to it?

4. What error occurs when you try to assign a string to a string?

5. Not everything can be used as a variable name. Do the following names work for variables? If not, why?

x ; button4 ; 34 ; 3e4 ; turkey ; \$i ; square-root ; readme.txt ; shorterEdge ; NUMBER\_OF\_POINTS  
; \_ (underscore) ;  $\pi$  (pi) ; True ; \_cache ; \_\_name\_\_ ; while

6. Try to write a program which calculates the surface and volume of a cube with edge = 2852 cm.  
To help you not search for the formulas: surface  $S=6a^2$ ; volume  $V=a^3$   
Result (for comparison):  $S = 48803424 \text{ cm}^2$ ;  $V = 23197894208 \text{ cm}^3$

7. Now change the program, so that it allows the user to enter the value for the edge.

8. Save the following program as try.py and run it several times. What is the output ?

```
from random import randrange
number = randrange(3)
print(number)
```

- how it actually works, we will learn in the future, for now take it as it is.

- for everything to work properly, you must not have a file called random.py in your working directory

9. Alter the program rock\_paper\_scissors.py and set the pc\_choise to:

- a. 'stone', if the *number* is 0
- b. 'scissors', if the *number* is 1
- c. Otherwise 'paper'

10. Which Python operators can you name from your memory?

11. Have you tried to compare strings?

Try to fill the following table on your own, then verify them in Python

A		B
2	>	1
1	<	2
'abc'	==	'abc'
'aaa'		'abc'
'abc'		'Abc'
'abC'		'abc'
'abc'		'abcde'
'abc'		10

12. What is the value of the variable after executing the following commands?

variable = 1 < 2

variable = 2 < 2

variable = 1 < 2 < 3

variable = 1 < 3 < 2

variable = 1 < 3 < 3

variable = 'abc' < 'ABC' < 'def' < 'rabbit'

13. Based on the program waiter.py from the class, try to write your own version, that will create some output according to the specified walking speed, weight of the fish caught, number of turtles, water temperature or distance from the equator. You can come up with your own subject. Try to be creative.

14. Write a program that lists some secret information after entering the correct password.

15. Fill the following table:

A	B	A and B	A or B	not A
True	True			
False	True			
True	False			
False	False			

- this is a so-called truth table. It contains one line for each combination of Boolean values that A and B can have.

16. Try to rewrite the rock\_paper\_scissors.py program and use AND and OR logical operators.

If you can write the strings "Draw.", "You win!", "Computer won!" only once inside the program, without using variables, then Congratulations!

17. Try to rewrite the `happy_and_rich.py` program with nested IF statements. Which one is more legible for you?