

Work sheet 2 Python

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1. Which of the following is not a core datatype in python?
B) struct
2. Which of the following is an invalid variable name in python?
C) 1_no
3. Which one of the following is a keyword in python?
A) in
4. In which of the following manner are the operators of the same precedence executed in python?
B) BODMAS
5. Arrange the following in decreasing order of the precedence when they appear in an expression in python? i) Multiplication ii) Division iii) Exponential iv) Parentheses
A) iii – iv – ii – i
6. $(28//6)**3/3\%3 = ?$
C) 0.3333...
7. `a = input("Enter an integer")`. What will be the data type of a?
B) str
8. Which of the following statements are correct?
A) Division and multiplication have same precedence in python
D) In case of operators' having the same precedence, the one on the left side is executed first.
9. Which of the following is(are) valid statement(s) in python?
A) `abc = 1,000,000`
C) `a,b,c = 1000, 2000, 3000`, D) `a_b_c = 1,000,000`
10. Which of the following is not equal to X^{16} in python?
A) `x**4**4` B) `x**16`
C) `x^16`

11. Differentiate between a list, tuple, set and dictionary.

List: This is a homogeneous array

Tuple: this is like list but are immutable and allow duplicate values but in output will not be shown, and are ordered

Set: It is a data type in which it can hold heterogeneous data (means in one set we can have int, float, and string too), It is unordered and iterable and mutable, with no duplicates

Dictionary: It is heterogenous data with key and value pair in it, it is ordered with no duplication and can be mutable

12. Are strings mutable in python? Suppose you have a string "I+Love+Python", write a small code to replace '+' with space in python.

Ans: Strings are mutable

```
string="I+Love+Python"
string.replace("+", " ")
```

13. What does the function ord() do in python? Explain with an example. Also, write down the function for getting the data type of a variable in python.

Ans: ord() functions returns the Unicode from given character e.g. print(ord("z")) is 122

type() is a function to check the type of the variable

14. Write a python program to solve a quadratic equation of the form $ax^2+bx+c=0$. Where a, b and c are to be taken by user input. Handle the erroneous input, such as 'a' should not be equal to 0.

Ans:

Solving Quadratic equation

import math

def quadratic_equation(a,b,c):

$x=(b^2-4ac)$

square_root=math.sqrt(abs(x))

if x>0:

print("the roots are real and different")

print((-b-square_root)/(2*a))

print((-b+square_root)/(2*a))

elif x==0:

print(" the roots are real and same ")

print(-b / (2 * a))

elif x<0:

```

        print("the roots are Complex")
        print(- b / (2 * a), " + i", square_root)
        print(- b / (2 * a), " - i", square_root)
a=int(input(" Enter coefficient of x^2"))
b=int(input(" Enter coefficient of x"))
c=int(input(" Enter the remaining value "))
if a==0:
    print(" a cannot be zero")
else:
    quadratic_equation(a,b,c)

```

15. Write a python program to find the sum of first 'n' natural numbers without using any loop. Ask users to input the value of 'n'.

Ans:

```

x=int(input("Enter a positive natural value to find the sum up to that value"))
y=x*(x+1)/2
print(" The sum of all natural value up to ", x, " is ", y)

```