

# DATA HANDLING

## ASSIGNMENTS

1. How many parts are there for any complex number?
2. What is data type in python? Is there any importance of data type?
3. Differentiate mutable and immutable data types? List these
4. Differentiate implicit type conversion and explicit type conversion.
5. List the augmented assignment operator supported by python.
6. What is the output of the following code :  
`print(9//2)`
7. Can you identify the data types of following values, if yes write their data type.  
`[4,5,2]` , `{2,34,5}` , `(4,23,55)` , `{33,4,4}` , `4` , `5.2` , `8j` , `'1'` , `"1"` , `4+0j`
8. Is Boolean is a subtype of integers?
9. Write the names of python built in data types.
10. What will be the output of the following code  
`print(5/2)`  
`print(5//2)`
11. What will the output of following codes  
`print (8*2 - 2*4)`  
`print (3 + 18/9 - 3**2+1)`  
`print ((4 + 24)/8 - (2**3+3))`
12. Write the equivalent arithmetic expression in python of followings.

a.  $(7x - 4)^3 - 4$

b.  $\left(\frac{\sin(y) - \cos(y)}{1+y^2}\right)^3 - 4$

c.  $(x^5 - \sqrt{7-x})^3 - 4$

d.  $x^3 - 4$

13. What will the output of following code snippet

```
x = 5
y = -1
print ((x+y)*1./x)
print (3*x)
print (x)
```

14. Write the python programs for following formulas

function	shape	formula
Volume	Cylinder Cone Sphere	$V = bh$ $V = bh/3$ $V = 4 * pi * r^3/3$
Circumference	Circle	$C = 2*pi*r$
Area	Square Rectangle Triangle Trapezoid Circle	$A = a^2$ $A = l*b$ $A = bh/2$ $A = (b_1+b_2)h/2$ $A = pi*r^2$
Surface Area	Cube Cylinder Cone Sphere	$S = 6a^2$ $S = 2*pi*r*h$ $S = pi*r*l$ $S = 4*pi*r^2$
Perimeter	Square Rectangle	$P = 4a$ $P = 2(l+b)$

15. Write the equivalent Boolean value

- a.  $7+3*4 < 3*3+4$
- b.  $4+3*4 == 3*3+7$

16. What is the problem with following code fragments
- a. `x="marks"+100`  
`print(x)`
  - b. `a=5`  
`b=a+500`  
`a="marks"`  
`c=a/2`  
`print(c)`
17. what will be the output of following code fragments
- ```
a,b=5,6
a,b,c=10,b,a
a,b,c=c/2,a+4,b*6+2
print(a)
print(b)
print(c)
```
18. what will be the output of following python statements
- ```
print(type(100))
print(type(100/2))
print(type('0'))
print(type(5.2))
```
19. Write a python program to solve quadratic equation
20. Python Program to Swap Two Variables
21. Python Program to Generate a Random Number
22. Python Program to Convert Kilometers to Miles
23. Python Program to Convert Celsius To Fahrenheit
24. Write a python program to reverse a 3 digit number
25. Find out the compound interest of entered amount,rate and time through python program.
26. Write a program to read any date(dd/mm/yyyy) and print it in given manner.
- ```
Day=dd
Month=mm
Year=yyyy
```