INTERNATIONAL INDIAN SCHOOL, BURAIDAH
WORKSHEET – COMPUTER SCIENCE (803) | CLASS XI
Chapter 7: Data Handling (Operator Precedence Excluded)

SECTION A – Multiple Choice Questions

1. Which of the following is an immutable data type in Python?
(a) List (b) Dictionary (c) Tuple (d) Set

2. What will bool('0') return? (Note: '0' is a string, not integer 0)
(a) False (b) 0 (c) True (d) Error

3. Which operator checks whether two variables refer to the SAME memory object?
(a) == (b) != (c) in (d) is

4. What will type(6 // 3) return?
(a) float (b) bool (c) int (d) str

SECTION B – Short Answer Questions

6. What are data types? Why are they important in Python? Name the main data types supported by Python.

7. How are the following numbers different from one another? Identify the data type of each.
33 33.0 33j 33 + 0j

8. What are augmented assignment operators? How are they useful? Give any TWO examples with their expanded equivalents.

9. Differentiate between mutable and immutable data types. Give TWO examples of each.

10. What is the difference between implicit type conversion and explicit type conversion? Give one example of each.

11. What are the three types of errors in Python? Define each type and give one example.(Syntax Error, Runtime, logical Error)

12. What is indentation in Python? Why is it important? What error does Python raise if indentation is incorrect? Give an example.

Answer:

Indentation refers to the spaces at the beginning of a code line.
If indentation is missing or incorrect, Python raises an IndentationError (which is a type of SyntaxError).
Example of correct indentation:

```
name = 'Guido Van Rossum'
age = 20
print(name, age)
```

Example of incorrect indentation (causes IndentationError):

```
name = 'Guido Van Rossum'
   age = 20            # unexpected indent — IndentationError
print(name, age)
```

13. [Case-Based] Study the following cases.
Hint: The == operator checks VALUE while the is operator checks the same memory location.
Answer the question given below each case.

(i)

```
a = 3
b = 3.0
print(a == b)
print(a is b)
```

Will both print True? Justify each output.

(ii)

```
CK = 'ABC'
DK = input('Enter: ')    # User types: ABC
print(CK == DK)
print(CK is DK)
```

Why does is return False?

(iii)

```
x = True
y = 1
print(x == y)
print(x is y)
```

Justify why == gives True but is gives False.

SECTION C – Identify Error, State its Type and Correct the Code

For each code fragment: (i) Identify the error (ii) Name the type of error (iii) Rewrite corrected code

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14.

(i)

```
name = 'IISB'
print(name)
name[3] = 'R'
print(name)
```

(ii)

```
a = bool(0)
b = bool(1)
print(a == false)
print(b == true)
```

15.

(i)

```
print('Hello' + 2)
print('Hello' + '2')
print('Hello' * 2)
```

(ii)

```
print(type(float('three point fourteen')))
```

16.

```
a, b, c = 2, 3, 6
d =  c/b
print(d)
```

Students expect an integer. Identify the error type and correct.

17.

```
x = 10
 y = 0
 print(x / y)
```

18.

(i)

```
a = 5
b = 2
```

```
print(a
print(b)
```

(ii)

```
number = 10
print('Square is:', numbr ** 2)
```

SECTION D – Predict the Output

19.

(a)

```
a, b, c = 1, 1, 2
d = a + b
e, f = 1.0, 1.0
g = 2.0
h = e + f
print(c == d)
print(c is d)
print(g == h)
print(g is h)
```

(b)

```
a = 3
b = 3.0
print(a == b)
print(a is b)
```

20.

(a)

```
a = 12
b = 7.4
c = 1
a -= b
print(a, b)
a *= 2 + c
print(a)
```

(b)

```
x = 4, 8
print(type(x))
x='Hello\n\nWorld!'
print(x[-4],x[2])
```

21.

(a)

```
a, b = bool(0), bool(0.0)
c, d = str(0), str(0.0)
print(len(c), len(d))
```

(b)

```
a='Hello'
b = a*2
print(b)
```

22. Predict the output when 'True' is entered as input for e:

```
a = True
b = 0 < 5
print(a == b)
print(a is b)
```

```
c = str(a)
d = str(b)
print(c == d)
print(c is d)
e = input('Enter: ')
print(c == e)
print(c is e)
```

SECTION E – Write Programs

23. Write a program to obtain the principal amount, rate of interest, and time from the user and compute simple interest.
SI = (P * R * T) / 100

24.Write a program to take x, y, z from the user and evaluate: $4x^4 + 3y^3 + 9z + 6x$

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