

Chap-6 Python Fundamentals

1. Which function is used to display output in Python?

- A) input()
- B) print()
- C) display()
- D) show()

2. Which function is used to take input from the user?

- A) print()
- B) output()
- C) input()
- D) read()

3. Which of the following is a valid identifier?

- A) 2name
- B) my-name
- C) student_name
- D) class

4. Which operator is used for "not equal to"?

- A) <>
- B) !=
- C) ==
- D) =

5. Which of the following is a Python keyword?

- A) student
- B) class
- C) marks
- D) total

6. Which operator is used for exponentiation?

- A) ^
- B) *
- C) **
- D) %

7. Which operator gives the remainder?

- A) //
- B) /
- C) %
- D) *

8. Which operator is used for floor division?

- A) /
- B) %
- C) //
- D) **

9. Which of the following is an integer literal?

- A) 15
- B) 15.5
- C) "15"
- D) True

10. Python is _____ sensitive.

- A) Space
- B) Case
- C) Line
- D) Word

11. Which symbol is used for assignment?

- A) ==
- B) =
- C) !=
- D) >=

12. Which operator checks equality?

- A) =
- B) ==
- C) !=
- D) >=

13. Which operator represents logical AND?

- A) &&
- B) and
- C) &
- D) ||

14. Which of the following is NOT a valid variable name?

- A) total_marks
- B) marks1
- C) studentName
- D) 1marks

15. Which of the following is NOT a token in Python?

- A) Keywords
- B) Operators
- C) Identifiers
- D) Paragraphs

Short Questions

1. What is a character set in Python?

Answer: A character set is the collection of letters, digits, special symbols, and whitespace characters that can be used to write Python programs.

2. What are tokens?

Answer: Tokens are the smallest individual units of a Python program.

3. Name the five types of tokens.

Answer:

1. Keywords
2. Identifiers
3. Literals
4. Operators
5. Punctuators

4. What are keywords?

Answer: Keywords are reserved words in Python that have predefined meanings and cannot be used as identifiers.

Examples: if, else, for, while, True

5. What are identifiers?

Answer: Identifiers are names given to variables, functions, classes, and other objects in a Python program.

6. Write any four rules for naming identifiers.

Answer:

- Must begin with a letter or underscore (_).
- Cannot start with a digit.
- Cannot contain spaces.
- Cannot be a Python keyword.

7. What are literals?

Answer: Literals are fixed values written directly in a program.

8. Name the types of literals.

Answer:

- Integer
- Float
- String
- Boolean
- None

9. What is a variable?

Answer: A variable is a named memory location used to store data.

10. What is multiple assignment?

Answer: Multiple assignment means assigning values to more than one variable in a single statement.

Example:

a, b, c = 10, 20, 30

11. What is the difference between / and //?

Answer:

- / performs normal division and returns a float.
- // performs floor division and returns the integer quotient.

12. What is an interpreted language?

Answer: An interpreted language executes the program line by line without compiling the entire program first.

13. Give any four applications of Python.

Answer:

- Web development
- Artificial Intelligence (AI)
- Data Science
- Game development

14. What is a statement?

Answer:

A statement is a single instruction written in a Python program.

Long Questions

1. What are Tokens? Explain the different types of tokens.

Answer: A **token** is the smallest meaningful unit of a Python program.

There are **five types of tokens**.

i. Keywords: Keywords are reserved words that have predefined meanings.

Examples: if, else, for, while, True, False

ii. Identifiers: Identifiers are names given to variables, functions, classes, and objects.

Example: student_name, marks, total

iii. Literals: Literals are fixed values written directly in a program.

Examples: 100, 25.5, "Python", True

iv. Operators: Operators perform mathematical and logical operations.

Examples: +, -, *, /, ==

2. Explain different types of Operators with examples.

Answer: Operators are symbols used to perform operations on variables and values.

i. Arithmetic Operators

Used for mathematical calculations.

Operator	Meaning
+	Addition
-	Subtraction
*	Multiplication
/	Division
//	Floor Division
%	Modulus
**	Exponent

ii. Comparison Operators

Used to compare values.

==, !=, >, <, >=, <=

iii. Logical Operators

Used to combine conditions.

and, or, not

iv. Assignment Operators

Used to assign values.

=, +=, -=, *=, /=

Program

1. Program Using Arithmetic Operators

Arithmetic Operators

```
a = int(input("Enter first number: "))
b = int(input("Enter second number: "))
print("Addition =", a + b)
print("Subtraction =", a - b)
print("Multiplication =", a * b)
print("Division =", a / b)
print("Floor Division =", a // b)
print("Modulus =", a % b)
print("Power =", a ** b)
```

2. Program Using Comparison (Relational) Operators

Comparison Operators

```
a = int(input("Enter first number: "))
b = int(input("Enter second number: "))
print("a == b :", a == b)
print("a != b :", a != b)
print("a > b :", a > b)
print("a < b :", a < b)
print("a >= b :", a >= b)
print("a <= b :", a <= b)
```

3. Program Using Logical Operators

Logical Operators

```
age = int(input("Enter your age: "))
```

```
marks = int(input("Enter your marks: "))  
print("Eligible :", age >= 18 and marks >= 40)  
print("Special Case :", age >= 18 or marks >= 40)  
print("Not Eligible :", not(age >= 18))
```

4. Program Using Assignment Operators

Assignment Operators

```
x = 20  
print("Initial Value =", x)  
x += 5  
print("After += :", x)  
x -= 3  
print("After -= :", x)  
x *= 2  
print("After *= :", x)  
x /= 4  
print("After /= :", x)  
x //= 2  
print("After //= :", x)  
x %= 3  
print("After %= :", x)
```