In the name of Allah

Introduction of python programming

Answer of second season

Multiple choice questions

1: Which of the following are invalid identifiers in Python?

Answer: Total-sum

2: A _____ is a sequence of one or more characters used to provide a name for a given program element.

Answer: String

3: Identify the invalid identifier below.

Answer: Total-discount

4: _____ are not allowed as part of an identifier

Answer: Spaces

5: Identifiers may contain letters and digits, but cannot begin with a _____.

Answer: Special Symbols

6: Which is not a reserved keyword in Python?

Answer: insert

7: Identify the invalid keyword below

Answer: until

8: _____ is an identifier that has predefined meaning.

Answer: keyword

9: Bitwise _____ operator gives 1 if one of the bit is zero and the other is 1.

Answer: or

10: Guess the output of the following code.1>2 and9>6

Answer: Ture

11: How many operands are there in the following arithmetic expression? 6*35+8-25

Answer: 3

12: how many binary operators are there in in the following arithmetic expression? -6+10/ (23+56)

Answer: 3

13: Which operator returns the remainder of the operands?

Answer: %

14: A _____ is a name that is associated with a value.

Answer: variable

15: Guess the output of the following expression.
float (22//3+3/3)

Answer: 8.0

16: What value does the following expression evaluate to?
2 + 9 * ((3 * 12) – 8) / 10

Answer: 27.2

17: _____ and _____ are two ways to comment in Python

Answer: Single and Multilevel comments

18: Single-line comments start with the _____ symbol.

Answer: #

19: Multiline comments can be done by adding _____ on each end of the comment.

Answer: # (Hash)

20: Python programs get structured through _____.

Answer: Indentation

21: In python indentation is a _____ and not a matter of style.
Answer: Requirement

22: Which of the following is correct about python?
Answer: All of the above.
23: Which of the following function is used to read data from the keyboard?

Answer: Input ()

24: The one`s complement of 60 is given by_____.
Answer: +59
25: The operators are and is not are _____.
Answer: Identity operators

26: In python an identifier is _____.
Answer: Case sensitive
27: Which of the following operator is truncation division operator?

Answer: //
28: The expression that requires type conversion when evaluated is _____.
Answer: 4.7*6.3
29: The operators that has the highest precedence is _____.

Answer: %
30: The expression that results in an error is _____.
Answer: int (`10.8`)
31: Which of the following expression is an example of type conversion?
Answer: 4.0+float (3)
32: What is the output when the following statement is executed?
>>>print (`new` `line`)
Answer: output equivalent to print `new\n line`

33: What is the output when the following statement is executed?
Print(0*D+0*E+0*F)
Answer: 42
34: What is the output of print (0.1+0.2==0.3)?

Answer: False
35: Which of the following is not a complex number?
Answer: 1=4+5j
36: Guess the output of the expression.
X=15
Y=12
X and Y
Answer: b1101
37: Incorrect indentation rustles in_____.
Answer: Indentation Error
38: The function that converts an integer to a string of one character whose ASCII code is same as the integer is _____.
Answer: chr (x)
Review question:
1: Explain different operator in python with examples.
Answer: python language supports a wide range of operators they are:
- Arithmetic operator
- Assignment operator
- Comparison operator
- Logical operator
- Bitwise operator

Example

1. >>>10+35
45
2. >>>-10+35
25

2: Define a variable. How to assign values to them?

Answer: Variable is named placeholder to hold any type of data which the program can use to assign and modify during course of execution. The general format for assigning values to variable is as follows. Variable___ name=expression.

3: Briefly explain binary left shift and binary right shift operators with example.

Answer: Left Shift (<<): Shifts bits to the left and fills zeros on the right.
Example: 5 << 1 → 10 (binary 0101 becomes 1010)
Right Shift (>>): Shifts bits to the right.
Example: 8 >> 2 → 2 (binary 1000 becomes 0010)

4: Explain precedence and associativity of operators with examples.

Answer: Precedence: Defines which operator is evaluated first.
Example: 2 + 3 * 4 → 14 (Multiplication has higher precedence than addition).
Associativity: Defines order when operators have the same precedence.
Example: 10 / 5 * 2 → 4.0 (evaluated left to right).

5: Outline different assignment operators with examples.

Answer: = : Simple assignment → x = 5
+= : Add and assign → x += 2
-= : Subtract and assign → x -= 2
*= : Multiply and assign → x *= 2
/= : Divide and assign → x /= 2
%= : Modulus and assign → x %= 2
**= : Exponent and assign → x **= 2
//= : Floor divide and assign → x //= 2

6: Briefly explain how to read data from the keyboard.

Answer: In Python, we use the input () function to read data. It always returns a string.
Example:

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

7: Explain type conversion in python with examples.

Answer: Type conversion means changing one data type into another.
Implicit Conversion (Type Casting automatically by Python):

```
x = 10
y = 3.5
z = x + y # x automatically converted to float
```

Explicit Conversion (Using functions):

```
x = int("100") # String to int
y = float(5) # Int to float
z = str(25) # Int to string
```

8: Write a short note on data types in python.

Answer: Python supports different types of data:
Numeric Types: int, float, complex
Sequence Types: list, tuple, range
Text Type: str
Set Types: set, frozen set
Mapping Type: dict
Boolean Type: bool
Binary Types: bytes, byte array, memory view
Each data type is used to store specific kinds of values.
9: Write a program to read tow integers and perform arithmetic operations on them (addition, subtraction, multiplication, and division).
Answer: 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)
10: Write a program to read the marks of three subjects and find the average of them.
Answer: m1 = float(input("Enter marks of subject 1: "))
m2 = float(input("Enter marks of subject 2: "))
m3 = float(input("Enter marks of subject 3: "))
average = (m1 + m2 + m3) / 3
print("Average marks:", average)
11: Write a program to convert kilogram into pound.
Answer: (1 kg = 2.20462 pounds)
kg = float(input("Enter weight in kilograms: "))
pounds = kg * 2.20462
print("Weight in pounds:", pounds)
12: Surface area of a prism can be calculated if the lengths of the three sides are known write a program that takes the sides as input (read it as integer) and prints the surface area of the prism (surface area= 2ab+2bc+2ca)
Answer: a = float(input("Enter side a: "))
b = float(input("Enter side b: "))
c = float(input("Enter side c: "))
surface_ area = 2 * (a*b + b*c + c*a)
print("Surface area of prism:", surface_ area)
13: A plane travels 395’000 meters in 9000seconds. Write a program to find the speed of the plane (speed = Distance / Time).
Answer: distance = 395000
time = 9000
speed = distance / time
print ("Speed of plane:", speed, "m/s")
14: You need to empty out the rectangular swimming pool which is 12 meters long,

7 meters wide and 2 meter depth. You have a pump which can move 17 cubic meters of water in an hour. Write a program to find how long it will take to empty your pool?

15: Write a program to convert temperature from centigrade (read it as float value) to Fahrenheit.

Answer: ```python
C to F: F = (C * 9/5) + 32
Celsius = float(input("Enter temperature in Celsius: "))
Fahrenheit = (Celsius * 9/5) + 32
print("Temperature in Fahrenheit:", Fahrenheit)

16: Write a program that calculates the number of seconds in a day.

Answer: ```python
seconds_ in_ day = 24 * 60 * 60
print("Number of seconds in a day:", seconds_ in_ day)

17: A car starts form a stoplight and is traveling with a velocity of 10m/s east in 20 seconds. Write a program to find the acceleration of the car.

Answer: ```python
acc = (v_ final - v_ initial) / time
v_ initial = 0
v_ final = 10 # m/s
time = 20 # seconds
acceleration = (v_ final - v_ initial) / time
print ("Acceleration of the car:", acceleration, "m/s^2").

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