Class & Objects Practice Questions

1. Create a class named **Student** with no attributes. Create an object of this class and print its address.

2. Create a class named **Car** with an instance variable **color**. Create an object of this class and assign the color "**Red**" to it. Print the color.

3. Create a class named **Book** with two instance variables: **title** and **author**. Create an object and assign values to these variables. Print the values.

4. Create a class named **Rectangle** with instance variables **length** and **width**. Create an object and assign values to these variables. Print the area of the rectangle.

5. Create a class named **BankAccount** with an instance variable **balance**. Create an object and assign an initial balance of **1000**. Print the balance.

6. Create a class named **Dog** with an instance variable **name**. Create 3 objects of this class and assign different names to each. Print the names.

7. Create a class named **Mobile** with instance variables **brand** and **model**. Create 2 objects and assign different values to each. Print the details of both mobiles.

8. Create a class named **Employee** with instance variables **name**, **id**, and **salary**. Create 3 objects and assign values to each. Print the details of all employees.

9. Create a class named **Circle** with an instance variable **radius**. Create 2 objects and assign different radii. Print the circumference of both circles.

   Formula : $C=2\pi r$

10. Create a class named **Laptop** with instance variables **brand**, **ram**, and **storage**. Create 3 objects and assign values to each. Print the details of all laptops.

11. Create a class named **Counter** with a static variable **count**. Increment this variable every time an object is created. Print the count after creating 3 objects.

12. Create a class named **Employee** with a static variable **company_name**. Assign a value to this variable and print it using the class name.

13. Create a class named **Student** with a static variable **school_name** and an instance variable name. Create 2 objects and print the school name and student names.

14. Create a class named **Car** with a static variable **wheels** and an instance variable **color**. Assign values to both and print them.

15. Create a class named **Bank** with a static variable **bank_name** and an instance variable **account_holder**. Create 2 objects and print the bank name and account holder names.

16. Create a class named **Calculator** inside the **main method** that declares two local variables **a** and **b**. Print the sum of these variables.

17. Create a class named **Greeting** inside the **main method** that declares a local variable **name** and prints "Hello, [name]".

18. Create a class named **MathOperations** inside the **main method** that declares two local variables x and y. Print the product.

19. Create a class named **Temperature** inside the **main method** that declares a local variable **celsius** and prints the converted temperature.

20. Create a class named **Test** with an instance variable **value**. Create an object and try to print the value without assigning any value to it. Observe the output.

21. Create a class named **Demo** with a static variable **count**. Try to print the value of count without assigning any value to it. Observe the output.

22. Create a class named **Example** inside the **main method** that declares a local variable num but does not assign any value to it. Try to print num and observe the output.

23. Create a class named **Sample** with an instance variable **data**. Create an object and print the value of data without initializing it. Observe the output.

24. Create a class named **Trial** with a static variable **number**. Print the value of number without initializing it. Observe the output.

25. Create a class named **Person** with instance variables **name** and **age**. Inside the **main** method display the name and age.

26. Create a class named **BankAccount** with instance variables **account_number** and **balance**. Inside the **main** method declare an amount and adds it to the balance. Create an object and test this method.

27. Create a class named **Rectangle** with instance variables **length** and **width**. Inside the **main** method calculate the area of the rectangle.

28. Create a class named **Student** with instance variables **name**, **roll_number**, and **marks**. Inside the **main** method print the grade based on the marks.

29. Create a class named **Employee** with instance variables **name**, **id**, and **salary**. Inside the **main** method declare the variable as **percentage** and increases the salary by that percentage.

30. Create a class named **Library** with a static variable **total_books** and an instance variable **book_name**. Inside the **main** method increment total_books and assigns a book name. Print the total_books & book_name.

Methods Practice Questions

1. Write a program to create a method that prints "Java is Fun!".

Sample Output: Java is Fun!

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2. Create a method and print your favorite programming language.

Sample Output: Python

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3. Write a method that prints your name three times using only method calls.

Sample Output: John
John
John

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4. Create a method that prints "Welcome to Java Methods" twice without using loops.

Sample Output: Welcome to Java Methods
Welcome to Java Methods

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5. Design a method that prints your first name and last name in two separate lines.

Sample Output: John
Doe

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6. Write a method that receives a number and prints it twice without using loops.

Sample Input: 5

Sample Output: 55

7. Create a method that takes a string as input and prints that string.

Sample Input: Hello World
Sample Output: Hello World

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8. Write a program to create a method that takes two numbers and prints their difference.

Sample Input: 10, 4
Sample Output: 6

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9. Define a method that accepts a decimal value and prints it.

Sample Input: 3.14
Sample Output: 3.14

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10. Write a method that takes two city names and prints "Traveling from Bhopal to Indore".

Sample Input: Bhopal, Indore
Sample Output: Traveling from Bhopal to Indore

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11. Create a method that returns the sum of two given numbers.

Sample Input: 5, 10

Sample Output: 15

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12. Write a method that receives a string and returns the same string with "Welcome " added before it.

Sample Input: John
Sample Output: Welcome John

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13. Define a method that takes a number and returns its square.

Sample Input: 5
Sample Output: 25

14. Write a method that receives two integers and returns their multiplication result.

Sample Input: 5, 6
Sample Output: 30

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15. Implement a method that receives a number and returns the number increased by 10.

Sample Input: 15
Sample Output: 25

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16. Write a static method that prints "This is a static method".

Sample Output: This is a static method

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17. Create a static method that receives an integer and prints "The number is: 6". (Any Number)

Sample Input: 10

Sample Output: The number is: 10

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18. Write a static method that receives two numbers and returns their product.

Sample Input: 5, 6
Sample Output: 30

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19. Implement a static method that takes a name as an argument and returns "Hello, [name]!".

Sample Input: John
Sample Output: Hello, John!

20. Create a non-static method that prints "This is a non-static method".

Sample Output: This is a non-static method

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21. Write a non-static method that receives a number and prints "The given number is [number]".

Sample Input: 10
Sample Output: The given number is 10

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22. Define a non-static method that takes two decimal values and prints their sum.

Sample Input: 3.5, 4.5
Sample Output: 8.0

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23. Write a program that has two methods: one prints "Method without parameter", another prints "Method with parameter".

Sample Output: Method without parameter
Method with parameter

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24. Create a program where one method receives two numbers and returns their addition, and another method receives three numbers and prints their multiplication.

Sample Input: Addition: 5, 10
Sample Output: 15 (5 + 10 = 15)

Sample Input: 2, 3, 4
Sample Output: 24 (2 * 3 * 4 = 24)

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25. Write a class with two methods: one method prints "Hello", and another method takes a string and prints "Hello, [string]". (Any String you can take)

Sample Input: World (Here we have taken String as World)

Sample Output for Method 1 : Hello
Sample Output for Method 1 : Hello, World

26. Implement two methods: one that prints "Java Programming", and another that takes a string and returns "Welcome to [string]".

Sample Input: Java (Here we have taken String as World)

Sample Output for Method 1 : Java Programming
Sample Output for Method 1 : Welcome to Java Programming

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27. Create a class named "Shop" with a method that receives a product name and price. The method should return a statement: "The price of [product] is [price]".

Sample Input: Laptop, 50000

Sample Output: The price of **Laptop** is **50000**

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28. Write a program with a method that takes a person's first name and last name as separate inputs and returns a single full name.

Sample Input 1: John,
Sample Input 2: Doe

Sample Output: John Doe

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29. Define a method that receives two numbers and prints the sum, multiplication, division, subtraction, and modulus of the numbers.

Sample Input: 10, 5

Sample Output: Sum: 15
Multiplication: 50
Division: 2.0
Subtraction: 5
Modulus: 0

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30. Create a class named "Operations" with a method that takes two integers and returns their average as a decimal value.

Sample Input: 10, 20

Sample Output: 15.0

User Input Practice Questions

1. **Write a method that takes an integer from the user and returns it.**
   Sample Input: 7
   Sample Output: 7

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2. **Define a method that receives a floating-point number from the user and returns it.**
   Sample Input: 3.14
   Sample Output: 3.14

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3. **Create a method that takes two integers from the user and print their sum.**
   Sample Input: 10, 5
   Sample Output: 15

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4. **Write a method that accepts two decimal numbers from the user and returns their difference.**
   Sample Input: 8.6, 3.2
   Sample Output: 5.4

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5. **Implement a method that receives two numbers from the user and prints their product.**
   Sample Input: 4, 6
   Sample Output: 24

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6. **Define a method that takes a number from the user and returns its double.**
   Sample Input: 9
   Sample Output: 18

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7. **Create a method that accepts an integer from the user and returns its square.**
   Sample Input: 6
   Sample Output: 36

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8. **Write a method that receives two numbers from the user and prints their average.**
   Sample Input: 12, 18
   Sample Output: 15.0

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9. **Implement a method that takes three numbers from the user and returns their sum.**
   Sample Input: 5, 10, 15
   Sample Output: 30

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10. **Write a method that receives a decimal value from the user and returns it multiplied by 10.**
    Sample Input: 2.5
    Sample Output: 25.0

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11. **Create a method that takes two integers from the user and print their division result.**
    Sample Input: 20, 4
    Sample Output: 5

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12. **Implement a method that receives a number from the user and prints it increased by 5.**
Sample Input: 10
Sample Output: 15

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13. **Define a method that takes a number from the user and returns its cube.**
Sample Input: 3
Sample Output: 27

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14. **Write a method that accepts two numbers from the user and returns their modulus.**
Sample Input: 17, 5
Sample Output: 2

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15. **Create a method that takes two numbers from the user and returns their subtraction result.**
Sample Input: 50, 20
Sample Output: 30

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16. **Implement a method that receives three numbers from the user and returns their product.**
Sample Input: 2, 3, 4
Sample Output: 24

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17. **Define a method that takes a number from the user and returns it divided by 2.**
Sample Input: 18
Sample Output: 9

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18. **Write a method that accepts two floating-point numbers from the user and returns their sum.**
Sample Input: 3.5, 2.5
Sample Output: 6.0

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19. **Implement a method that receives an integer from the user and returns its remainder when divided by 3.**
Sample Input: 20
Sample Output: 2

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20. **Define a method that takes an integer from the user and returns it multiplied by itself.**
Sample Input: 7
Sample Output: 49

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21. **Write a method that receives three decimal numbers from the user and returns their average.**
Sample Input: 4.5, 5.5, 6.5
Sample Output: 5.5

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22. **Create a method that takes two numbers from the user and prints the first number raised to the power of the second.**
Sample Input: 2, 3
Sample Output: 8

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23. **Write a method that receives a decimal number from the user and prints its half value.**
Sample Input: 9.2
Sample Output: 4.6

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24. **Create a method that takes two integers from the user and returns their sum multiplied by 2.**
Sample Input: 8, 12
Sample Output: 40

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25. **Define a method that receives three numbers from the user and returns the sum of their squares.**
Sample Input: 2, 3, 4
Sample Output: 29

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26. **Implement a method that takes two numbers from the user and returns their product divided by their sum.**
Sample Input: 6, 3
Sample Output: 2

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27. **Create a method that receives two numbers from the user and print the difference between their squares.**
Sample Input: 10, 6
Sample Output: 64

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28. **Define a method that takes a number from the user and returns the result of subtracting it from 100.**
Sample Input: 25
Sample Output: 75

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29. **Write a method that takes two numbers from the user and returns the first number doubled plus the second number tripled.**
Sample Input: 4, 5
Sample Output: 23

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30. **Implement a method that receives two numbers from the user and prints their harmonic mean. (Formula: 2 * (a * b) / (a + b))**

Sample Input: 4, 5
Sample Output: 4.44
