

1. What is the primary reason to use functions in programming?
 1. Increase execution time
 - ~~2. Reduce memory usage~~
 3. Improve modularity and reusability
 4. Increase code repetition
2. Which Java keyword is used when a function returns nothing?
 1. null
 - ~~2. void~~
 3. empty
 4. none
3. Which of the following follows Java's method definition syntax correctly?
 - ~~1. function myFunc(int a) => a + 1~~
 2. int myFunc(a) { return a; }
 3. int myFunc(int a) { return a; }
 4. myFunc(int a): return a
4. What does the DRY principle stand for?
 1. Don't Rewrite Yourself
 - ~~2. Do Run Yourself~~
 3. Don't Repeat Yourself
 4. Don't Reset Yourself
5. Which function definition correctly demonstrates overloading?
 1. int greet() and void greet()
 - ~~2. void greet(String name) and void greet()~~
 3. void greet(String name, String name)
 4. void greet(String) and greet(String)
6. What will be the output of the following code?

```
int square(int num) {  
    return num * num;  
}
```

```
System.out.println(square(4));
```

 1. 8
 - ~~2. 16~~
 3. 4
 4. Error
7. Which of the following is NOT a valid function name in Java?
 1. calculateSum
 - ~~2. 2calculate~~
 3. displayMessage
 4. get_total
8. Which of the following is a built-in function in Java?
 - ~~1. System.out.println()~~
 2. addNumbers()
 3. greetUser()
 4. calculateTax()
9. Which of the following statements is TRUE about functions?
 1. They reduce readability
 2. They prevent reuse
 3. They modularize code
 - ~~4. They increase complexity~~

10. What is the purpose of the return statement?

- 1. To print output
- 3. To exit a loop

- ~~2. To pass value back from function~~
- 4. To define variables

11. Guess the output:

```
void sayHello() {  
    System.out.println("Hello!");  
}
```

sayHello();

- ~~1. Hello!~~
- 3. void

- 2. Error
- 4. Nothing

12. Which of the following calls a function named displayMessage with one argument?

- 1. displayMessage();
- 3. displayMessage;

- ~~2. displayMessage("Hi");~~
- 4. call displayMessage("Hi")

13. What does the following function return?

```
int add(int a, int b) {  
    return a + b;  
}
```

System.out.println(add(3, 7));

- ~~1. 10~~
- 3. 4

- 2. 37
- 4. Error

14. What type of value does the following function return?

```
double getDiscount() {  
    return 0.2;  
}
```

- 1. int
- ~~3. double~~

- 2. float
- 4. void

15. Which line will produce a compilation error?

- 1. void greet() {}
- 3. return x + 1;

- 2. int x = 5;
- ~~4. System.out.println(return);~~

16. What is the output of:

```
String message = "Local";  
System.out.println(message);
```

- ~~1. Local~~
- 3. "Local"

- 2. Error
- 4. Null

17. In Java, where are functions defined?

- 1. Outside class
- 3. Inside class

- 2. Inside loops
- 4. Anywhere

→ 3

18. What is method overloading?

- 1. Using too many parameters
- ~~2. Same method name, different signatures~~
- 3. Calling one method from another
- 4. Exceeding memory

19. Which is a valid return type?

- 1. word
- 2. nothing
- 3. string
- ~~4. boolean~~

20. A function with the same name but different parameters is:

- 1. Overridden
- ~~2. Overloaded~~
- 3. Recursive
- 4. Invalid

21. Debug the code:

```
void greet(String name) {  
    System.out.println("Hello " + name)  
}
```

- ~~1. Missing semicolon~~
- 2. Wrong parameter
- 3. Wrong method name
- 4. Extra braces

22. What will happen if you try to access a local variable outside its function?

- 1. It works fine=
- ~~2. Compile-time error~~
- 3. Runtime error
- 4. Prints null

23. Which is true for recursive functions?

- 1. They must end with a semicolon
- ~~2. They call themselves~~
- 3. They call other functions
- 4. They cannot return values

24. How to make functions more readable?

- 1. Use single-letter names
- ~~2. Use camelCase and verbs~~
- 3. Avoid comments
- 4. Use long names only

25. What does 'modularity' mean in functions?

- 1. One function does everything
- ~~2. Code is broken into parts~~
- 3. Code is reused without logic
- 4. Using only built-in methods

26. A train travels 360 km at a uniform speed. If the speed had been 5 km/h more, it would have taken 48 minutes less. What is the original speed?

- 1. 35 km/h
- ~~2. 40 km/h~~
- 3. 45 km/h
- 4. 50 km/h

27. A and B together can complete a piece of work in 20 days. B alone can complete it in 30 days. How many days will A alone take?

- ~~1. 60~~
3. 45

2. 40
4. 50

28. The average of 5 consecutive odd numbers is 35. What is the smallest of these numbers?

1. 29
3. 33

- ~~2. 31~~
4. 35

29. A can do a job in 16 days, and B in 12 days. They work together for 4 days. How much work is left?

1. $\frac{1}{3}$
~~3. $\frac{5}{12}$~~

2. $\frac{1}{4}$
4. $\frac{7}{12}$

30. The average age of a group of 8 students is 22 years. If one more student joins the group, the average becomes 21. What is the age of the new student?

- ~~1. 13~~
3. 15

2. 14
4. 16