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3	Tour and Travel management System	React+Springboot+MySql
4	Election commition of India (online Voting System)	React+Springboot+MySql
5	HomeRental Booking System	React+Springboot+MySql
6	Event Management System	React+Springboot+MySql
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8	Agriculture web Project	React+Springboot+MySql
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10	E-commerce web Project	React+Springboot+MySql
11	Hospital Management System	React+Springboot+MySql
12	E-RTO Driving licence portal	React+Springboot+MySql
13	Transpotation Services portal	React+Springboot+MySql
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24	Payroll Management System	React+Springboot+MySql
25	RealEstate Property Project	React+Springboot+MySql
26	Marriage Hall Booking Project	React+Springboot+MySql
27	Online Student Management portal	React+Springboot+MySql
28	Resturant management System	React+Springboot+MySql
29	Solar Management Project	React+Springboot+MySql
30	OneStepService LinkLabourContractor	React+Springboot+MySql
31	Vehical Service Center Portal	React+Springboot+MySql
32	E-wallet Banking Project	React+Springboot+MySql
33	Blogg Application Project	React+Springboot+MySql
34	Car Parking booking Project	React+Springboot+MySql
35	OLA Cab Booking Portal	React+NextJs+Springboot+MySql
36	Society management Portal	React+Springboot+MySql
37	E-College Portal	React+Springboot+MySql
38	FoodWaste Management Donate System	React+Springboot+MySql
39	Sports Ground Booking	React+Springboot+MySql
40	BloodBank mangement System	React+Springboot+MySql

41	Bus Tickit Booking Project	React+Springboot+MySql
42	Fruite Delivery Project	React+Springboot+MySql
43	Woodworks Bed Shop	React+Springboot+MySql
44	Online Dairy Product sell Project	React+Springboot+MySql
45	Online E-Pharma medicine sell Project	React+Springboot+MySql
46	FarmerMarketplace Web Project	React+Springboot+MySql
47	Online Cloth Store Project	React+Springboot+MySql
48	Train Ticket Booking Project	React+Springboot+MySql
49	Quizz Application Project	JSP+Springboot+MySql
50	Hotel Room Booking Project	React+Springboot+MySql
51	Online Crime Reporting Portal Project	React+Springboot+MySql
52	Online Child Adoption Portal Project	React+Springboot+MySql
53	online Pizza Delivery System Project	React+Springboot+MySql
54	Online Social Complaint Portal Project	React+Springboot+MySql
55	Electric Vehical management system Project	React+Springboot+MySql
56	Online mess / Tiffin management System Project	React+Springboot+MySql
57		React+Springboot+MySql
58		React+Springboot+MySql
59		React+Springboot+MySql
60		React+Springboot+MySql

Spring Boot + React JS + MySQL Project List

Sr.No	Project Name	YouTube Link
1	Online E-Learning Hub Platform Project	https://youtu.be/KMjyBaWmgzg?si=YckHuNzs7eC84-IW
2	PG Mate / Room sharing/Flat sharing	https://youtu.be/4P9clHg3wvk?si=4uEsi0962CG6Xodp
3	Tour and Travel System Project Version 1.0	https://youtu.be/-UHOBywHaP8?si=KHHfE_A0uv725f12
4	Marriage Hall Booking	https://youtu.be/VXz0kZQi5to?si=llOS-QG3TpAFP5k7
5	Ecommerce Shopping project	https://youtu.be/vJ_C6LkhrZ0?si=YhcBylSErvdn7paq
6	Bike Rental System Project	https://youtu.be/FIzsAmIBCbk?si=7ujQTJqEgkQ8ju2H
7	Multi-Restaurant management system	https://youtu.be/pvV-pM2Jf3s?si=PgvnT-yFc8ktrDxB
8	Hospital management system Project	https://youtu.be/IynIouBZvY4?si=CXzQs3BsRkjKhZCw
9	Municipal Corporation system Project	https://youtu.be/cVMx9NVyI4I?si=qX0oQt-GT-LR_5jF
10	Tour and Travel System Project version 2.0	https://youtu.be/_4u0mB9mHXE?si=gDiAhKBowi2gNUKZ

Sr.No	Project Name	YouTube Link
11	Tour and Travel System Project version 3.0	https://youtu.be/Dm7nOdpasWg?si=P_Lh2gcOFhlyudug
12	Gym Management system Project	https://youtu.be/J8_7Zrkg7ag?si=LcxV51ynfUB7OptX
13	Online Driving License system Project	https://youtu.be/3yRzsMs8TLE?si=JRI_z4FDx4Gmt7fn
14	Online Flight Booking system Project	https://youtu.be/m755rOwdk8U?si=HURvAY2VnizIyJlh
15	Employee management system project	https://youtu.be/lD1iE3W_GRw?si=Y_jv1xV_BljhrD0H
16	Online student school or college portal	https://youtu.be/4A25aEKfei0?si=RoVgZtxMk9TPdQvD
17	Online movie booking system project	https://youtu.be/Lfjv_U74SC4?si=fiDvrhhrjb4KSlSm
18	Online Pizza Delivery system project	https://youtu.be/Tp3izreZ458?si=8eWAOzA8SVdNwlyM
19	Online Crime Reporting system Project	https://youtu.be/0UlzReSk9tQ?si=6vN0e70TVY1GOwPO
20	Online Children Adoption Project	https://youtu.be/3T5HC2HKyT4?si=bntP78niYH802I7N

1. What does the acronym "C++" stand for?

- A) Common Computer Programming
- B) Central Computing Platform
- C) C Plus Plus
- D) Complete Coding Program

Answer: C) C Plus Plus

2.Which of the following is the correct syntax for a single-line comment in C++?

- A) // This is a comment
- B) /* This is a comment */
- C) # This is a comment
- D) — This is a comment

Answer: A) // This is a comment

3. What is the output of the following code snippet?

```
int x = 5;
cout << "The value of x is: " << x++ << endl;
```

- A) The value of x is: 5
- B) The value of x is: 6
- C) The value of x is: 4
- D) None of the above

4. Which operator is used for dynamic memory allocation in C++?

- A) new
- B) malloc
- C) allocate
- D) create

Answer: A) new

5. What is the output of the following code snippet?

```
int x = 10;
int y = x << 1;
cout << "Value of y: " << y << endl;
```

- A) Value of y: 5
- B) Value of y: 20
- C) Value of y: 2
- D) Value of y: 10

Answer: B) Value of y: 20

6. What is the correct syntax to declare a pointer in C++?

- A) int pointer p;
- B) pointer int p;
- C) int *p;
- D) p = new int;

Answer: *C) int p;*

7. What does the keyword "const" indicate in C++?

- A) It signifies a constant variable that cannot be modified.
- B) It specifies a function that returns a constant value.
- C) It denotes a variable that is constant throughout the program.
- D) All of the above

Answer: D) All of the above

8. What is the correct way to define a class in C++?

- A) class MyClass;
- B) class MyClass {}
- C) class MyClass();
- D) class = MyClass;

Answer: B) class MyClass {}

9. What is the scope resolution operator in C++?

- A) ::
- B) .
- C) ->
- D) :

Answer: A) ::

10. What is the output of the following code snippet?

- A) Size of the array: 5
- B) Size of the array: 20
- C) Size of the array: 10
- D) Size of the array: 1

Answer: A) Size of the array: 5

11. Which of the following is the correct way to allocate dynamic memory for an array of integers in C++?

- A) int* arr = new int[10];
- B) int* arr = malloc(10 * sizeof(int));
- C) int arr[10];
- D) int arr = new int[10];

Answer: A) int* arr = new int[10];

12. What is the default access specifier for members of a class in C++?

- A) Public
- B) Private
- C) Protected
- D) None

Answer: B) Private

13. Which of the following is not a valid C++ loop construct?

- A) for
- B) while
- C) do-while
- D) repeat-until

Answer: D) repeat-until

14. What does the “this” pointer refer to in a class?

- A) The previous object
- B) The next object
- C) The current object
- D) The parent object

Answer: C) The current object

15. Which function is used to find the length of a string in C++?

- A) size()
- B) length()
- C) strlen()
- D) all of the above

Answer: D) all of the above

16. Which of the following operators cannot be overloaded in C++?

- A) +
- B) –
- C) ::
- D) ==

Answer: C) ::

17. What is the correct syntax for creating a reference variable in C++?

- A) int &ref = var;
- B) int ref = &var;
- C) int ref = var;
- D) int *ref = var;

Answer: A) int &ref = var;

18. Which of the following is used to terminate a loop?

- A) break
- B) continue
- C) exit
- D) end

Answer: A) break

19. What is the output of the following code?

```
int a = 10;
int b = 20;
swap(a, b);
cout << a << " " << b;
```

- A) 10 20
- B) 20 10
- C) Compiler error
- D) Runtime error

Answer: C) Compiler error

20. Which of the following data types is used to store true/false values in C++?

- A) int
- B) bool
- C) char
- D) float

Answer: B) bool

21. What is the return type of the main() function in C++?

- A) void
- B) int
- C) char
- D) float

Answer: B) int

22. Which header file is required to use the std::vector class?

- A) <vector>
- B) <array>
- C) <list>
- D) <stack>

Answer: A) <vector>

23. What is the output of the following code?

```
int x = 5;
int y = 10;
cout << x + y << endl;
```

- A) 5
- B) 10
- C) 15
- D) 0

Answer: C) 15

24. Which of the following is not a type of constructor in C++?

- A) Default constructor
- B) Copy constructor
- C) Move constructor
- D) Assign constructor

Answer: D) Assign constructor

25. Which of the following statements is correct about destructors in C++?

- A) They can be overloaded.
- B) They can have parameters.
- C) They do not have a return type.
- D) They are called manually.

Answer: C) They do not have a return type.

26. What is the correct syntax to inherit a class in C++?

- A) class Derived : public Base {};
- B) class Derived = Base {};
- C) class Derived inherits Base {};
- D) class Derived Base {};

Answer: A) class Derived : public Base {};

27. What is the output of the following code?

```
int x = 10;
x += 5;
cout << x << endl;
```

- A) 5
- B) 10
- C) 15
- D) 20

Answer: C) 15

28. Which keyword is used to handle exceptions in C++?

- A) catch
- B) throw
- C) try
- D) all of the above

Answer: D) all of the above

29. Which of the following is used to define a macro in C++?

- A) #define
- B) #macro
- C) #include
- D) #pragma

Answer: A) #define

30. What does the 'new' keyword do in C++?

- A) Allocates memory for a variable
- B) Deallocates memory for a variable
- C) Creates a new variable
- D) Deletes a variable

Answer: A) Allocates memory for a variable

31. What is the output of the following code?

```
int arr[] = {1, 2, 3, 4, 5};
cout << arr[2] << endl;
```

- A) 1
- B) 2
- C) 3
- D) 4

Answer: C) 3

32. What is a friend function in C++?

- A) A function that is a member of a class
- B) A function that has access to the private and protected members of a class
- C) A function that is defined inside a class
- D) A function that is called within another function

Answer: B) A function that has access to the private and protected members of a class

33. What is polymorphism in C++?

- A) The ability to create multiple classes
- B) The ability to process objects differently based on their data type
- C) The ability to use one function for different purposes
- D) The ability to inherit properties from multiple classes

Answer: B) The ability to process objects differently based on their data type

34. Which of the following is a valid way to declare an integer array of size 5?

- A) int arr[5];
- B) int arr = new int[5];
- C) int arr(5);
- D) int arr[] = {5};

Answer: A) int arr[5];

35. What is the output of the following code?

```
int a = 10;
int b = 20;
int c = a > b ? a : b;
cout << c << endl;
```

- A) 10
- B) 20
- C) 30
- D) 0

Answer: B) 20

36. Which of the following is not a storage class specifier in C++?

- A) auto
- B) register
- C) static
- D) volatile

Answer: D) volatile

37. Which of the following is true about virtual functions in C++?

- A) They can be static.
- B) They are defined using the keyword virtual.
- C) They can have a different signature in derived classes.
- D) They cannot be overridden.

Answer: B) They are defined using the keyword virtual.

38. Which of the following is a correct way to declare a function in C++?

- A) void myFunction();
- B) function void myFunction();
- C) myFunction() void;
- D) void = myFunction();

Answer: A) void myFunction();

39. What is encapsulation in C++?

- A) The ability to hide the internal details of an object
- B) The ability to create objects from classes
- C) The ability to inherit properties from another class
- D) The ability to define multiple functions with the same name

Answer: A) The ability to hide the internal details of an object

40. Which of the following is the correct way to declare a constant in C++?

- A) const int x = 10;
- B) int const x = 10;
- C) both A and B
- D) none of the above

Answer: C) both A and B

41. What is the purpose of the 'using namespace std;' statement in C++?

- A) It imports the standard library functions.
- B) It allows you to use standard library names without prefixing them with 'std::'.
- C) It defines a new namespace called 'std'.
- D) It includes the standard input/output functions.

Answer: B) It allows you to use standard library names without prefixing them with 'std::'.

42. Which of the following is the correct way to define a pure virtual function in C++?

- A) virtual void myFunction() = 0;
- B) void virtual myFunction() = 0;
- C) pure virtual void myFunction();
- D) virtual void myFunction() {0};

Answer: A) virtual void myFunction() = 0;

43. What does the keyword 'mutable' signify in C++?

- A) It allows a member of an object to be modified even if the object is const.
- B) It declares a variable that can change its type at runtime.
- C) It indicates a variable that can only be modified once.
- D) It specifies a variable that is shared across all instances of a class.

Answer: A) It allows a member of an object to be modified even if the object is const.

44. Which of the following is not a feature of object-oriented programming in C++?

- A) Inheritance
- B) Polymorphism
- C) Encapsulation
- D) Compilation

Answer: D) Compilation

45. What is the output of the following code?

```
int arr[] = {10, 20, 30, 40, 50};
cout << arr[3] << endl;
```

- A) 10
- B) 20
- C) 30
- D) 40

Answer: D) 40

46. Which of the following cannot be used with the 'this' pointer in C++?

- A) Static member functions
- B) Non-static member functions
- C) Member variables
- D) Member functions

Answer: A) Static member functions

47. What is the correct syntax for declaring a function template in C++?

- A) template <class T> void myFunction(T param);
- B) template void myFunction<T>(T param);
- C) template <T> void myFunction(class param);
- D) template <class T> T void myFunction(T param);

Answer: A) template <class T> void myFunction(T param);

48. What is the output of the following code?

```
int x = 10;
int y = 20;
if (x < y) {
cout << "x is less than y" << endl;
}
```

- A) x is less than y
- B) x is greater than y
- C) x is equal to y
- D) No output

Answer: A) x is less than y

49. Which of the following correctly describes a constructor in C++?

- A) A function that is called when an object is destroyed.
- B) A function that is used to copy one object to another.
- C) A function that initializes the member variables of an object.
- D) A function that is used to perform some operation on an object.

Answer: C) A function that initializes the member variables of an object.

50. What is the output of the following code?

```
int a = 5;
int b = 10;
swap(a, b);
cout << a << " " << b << endl;
```

- A) 5 10
- B) 10 5
- C) Compiler error
- D) Runtime error

Answer: C) Compiler error

intro-to-cpp

// C++ Introduction Quiz

1).What is the main purpose of the C++ programming language?

1) To provide a platform-independent programming language for system and application software.
2) To create web pages.
3) To design graphics and animations.
4) To simulate mathematical models in physics and engineering.

2).Which of the following is a valid C++ identifier?

1) 123abc
2) _myVariable
3) int
4) return
Your selected answer: _myVariable
Correct!

3).Which of the following is the correct syntax to include a header file in C++?

1) #include <iostream>
2) include iostream.h
3) #include iostream
4) #import <iostream>
Your selected answer: include iostream.h
Incorrect!
The correct answer is: **#include <iostream>**.

4).Which of the following is the correct way to print 'Hello, World!' in C++?

1) print("Hello, World!");
2) echo "Hello, World!";
3) cout << "Hello, World!";
4) console.log("Hello, World!");
Your selected answer: echo "Hello, World!";
Incorrect!
The correct answer is: **cout << 'Hello, World!';**.

5).What is the default value of a global variable in C++ if it is not explicitly initialized?

1) 0
2) null
3) undefined
4) It throws an error.

Your selected answer: undefined

Incorrect!

The correct answer is: **0**.

6).Which operator is used to access members of a class in C++?

1) .
2) ->
3) &
4) *

Your selected answer: ->

Incorrect!

The correct answer is: **.**.

7).In C++, which of the following types is used for dynamic memory allocation?

1) new
2) malloc
3) alloc
4) allocmem

Your selected answer: new

Correct!

8).Which of the following is the correct way to comment a single line in C++?

1) // This is a comment
2) /* This is a comment */
3) <!-- This is a comment -->
4) # This is a comment

9).Which of the following is the correct syntax to declare a constant in C++?

1) const int x = 10;
2) int x const = 10;
3) constant int x = 10;
4) x = const 10;

Your selected answer: const int x = 10;

Correct!

10).Which of the following statements is true about C++ functions?

1) A function must always return a value.
2) A function may or may not return a value.
3) A function can only return an integer.
4) A function cannot take parameters.

Your selected answer: A function must always return a value.

Incorrect!

The correct answer is: **A function may or may not return a value.**.

11). Which keyword is used to define a constant in C++?

1) final
2) const
3) static
4) immutable

Your selected answer: final

Incorrect!

The correct answer is: **const**.

12). What is the default value of a local variable in C++?

1) 0
2) null
3) undefined
4) It throws an error.

Your selected answer: undefined

Incorrect!

The correct answer is: **It throws an error.**.

13). Which of the following is used to declare a pointer in C++?

1) &
2) *
3) ->
4) %

Your selected answer: *

Correct!

14). What is the result of dividing two integers in C++?

1) Float
2) Integer division
3) Error

4) None of the above

Your selected answer: Float

Incorrect!

The correct answer is: **Integer division**.

15). Which of the following is a C++ data type?

1) int

2) string

3) float

4) All of the above

16). Which of the following is used for input in C++?

1) cin

2) input

3) in

4) printf

Your selected answer: input

Incorrect!

The correct answer is: **cin**.

17). What is the syntax for a C++ comment?

1) /* Comment */

2) # Comment

3) // Comment

4) <!-- Comment -->

Your selected answer: /* Comment */

Incorrect!

The correct answer is: **// Comment**.

18). What is the correct way to declare an array in C++?

1) int arr[10];

2) arr int[10];

3) int[10] arr;

4) array arr(10);

Your selected answer: int arr[10];

Correct!

19). Which operator is used to access a member of a class in C++?

1) .

2) ->

3) &

4) *

20). Which of the following is used to declare a constant in C++?

1) const int x = 10;

2) int x const = 10;

3) constant int x = 10;

4) x = const 10;

Your selected answer: constant int x = 10;

Incorrect!

The correct answer is: **const int x = 10;**.

21). Which of the following is true about functions in C++?

1) A function must always return a value

2) A function can return no value (void)

3) A function cannot take parameters

4) A function can only return a string

Your selected answer: A function cannot take parameters

Incorrect!

The correct answer is: **A function can return no value (void)**.

22). Which of the following is used to include a standard library in C++?

1) #import <iostream>

2) #include <iostream>

3) include <iostream>

4) import <iostream>

Your selected answer: include <iostream>

Incorrect!

The correct answer is: **#include <iostream>**.

23). Which of the following is a valid identifier in C++?

1) 123abc

2) _myVariable

3) int

4) return

Your selected answer: _myVariable

Correct!

24). Which operator is used to compare two values in C++?

1) ==

2) =

3) ===

4) !=

Your selected answer: =

Incorrect!

The correct answer is: **==**.

25). Which of the following types is used for dynamic memory allocation?

1) malloc

2) alloc

3) new

4) allocmem

Your selected answer: alloc

Incorrect!

The correct answer is: **new**.

26). What is the size of an `int` in C++?

1) 2 bytes

2) 4 bytes

3) 8 bytes

4) 16 bytes

Your selected answer: 4 bytes

Correct!

27). What does the `new` keyword do in C++?

1) Allocates memory on the stack

2) Allocates memory on the heap

3) Creates a new function

4) Creates a new class

Your selected answer: Allocates memory on the heap

Correct!

28). Which of the following is the correct syntax for defining a function in C++?

1) function_name() {}

2) void function_name() {}

3) def function_name() {}

4) function function_name() {}

Your selected answer: void function_name() {}

Correct!

29). Which of the following is true about C++ classes?

1) A class is a user-defined data type
2) A class can contain only data
3) A class can contain only functions
4) None of the above

Your selected answer: A class can contain only functions

Incorrect!

The correct answer is: **A class is a user-defined data type**.

30). Which of the following is the correct way to declare a pointer in C++?

1) int* ptr;
2) ptr* int;
3) int ptr;
4) pointer int*;

Your selected answer: int* ptr;

Correct!

31). Which operator is used for logical AND in C++?

1) &
2) &&
3) |
4) ||

Your selected answer: &&

Correct!

32). Which operator is used to check inequality in C++?

1) !=
2) !==
3) !==
4) ==

Your selected answer: !==

Incorrect!

The correct answer is: **!=**.

33). What will the following code output?\n\n`int a = 5; int b = 10; cout << a + b;`

1) 5
2) 10
3) 15
4) Error

Your selected answer: 5

Incorrect!

The correct answer is: **15**.

34). How do you define a function in C++ that does not return any value?

1) void function_name()

2) function_name()

3) void function_name(void)

4) None of the above

Your selected answer: function_name()

Incorrect!

The correct answer is: **void function_name()**.

35). Which of the following is the correct way to open a file in C++?

1) fstream.open("file.txt")

2) ifstream("file.txt")

3) ofstream.open("file.txt")

4) ifstream file.open("file.txt")

Your selected answer: fstream.open("file.txt")

Incorrect!

The correct answer is: **ifstream file("file.txt");**.

36). Which of the following is used to close a file in C++?

1) file.close()

2) close(file)

3) fstream.close()

4) None of the above

Your selected answer: file.close()

Correct!

37). How can you initialize a constant in C++?

1) const int a = 5;

2) int const a = 5;

3) Both of the above

4) None of the above

Your selected answer: int const a = 5;

Incorrect!

The correct answer is: **Both of the above**.

38). Which of the following is used to define a constant pointer in C++?

1) const int* ptr;
2) int* const ptr;
3) const int* const ptr;
4) All of the above
Your selected answer: const int* const ptr;
Incorrect!
The correct answer is: **All of the above**.

39). Which of the following is the correct way to print to the console in C++?

1) print("Hello World");
2) printf("Hello World");
3) cout << "Hello World";
4) console.log("Hello World");
Your selected answer: print("Hello World");
Incorrect!
The correct answer is: **cout << 'Hello World';**.

40). What is a virtual function in C++?

1) A function that can be called from any class
2) A function defined with the `virtual` keyword
3) A function that can only be accessed from base class
4) None of the above
Your selected answer: A function defined with the `virtual` keyword
Correct!

41). Which of the following is the correct way to call a base class function from a derived class in C++?

1) base::function()
2) super::function()
3) this::function()
4) base.function()
Your selected answer: this::function()
Incorrect!
The correct answer is: **base::function()**.

42). What is the output of the following C++ code?\n\n`int x = 10; cout << x++;`

1) 10
2) 11
3) Error
4) None of the above

Your selected answer: 11

Incorrect!

The correct answer is: **10**.

43). Which of the following is the correct syntax for declaring a function pointer in C++?

1) void (*func_ptr)();

2) void func_ptr()

3) func_ptr void ();

4) None of the above

Your selected answer: void (*func_ptr)();

Correct!

44). What is the purpose of the `const` keyword in function parameters in C++?

1) To make sure the parameter is not modified

2) To allow the function to modify the parameter

3) To make the function parameter constant for any object

4) None of the above

Your selected answer: To allow the function to modify the parameter

Incorrect!

The correct answer is: **To make sure the parameter is not modified**.

45). Which of the following is a feature of C++?

1) Object-oriented programming

2) Automatic garbage collection

3) Multi-platform support

4) All of the above

Your selected answer: All of the above

Incorrect!

The correct answer is: **Object-oriented programming**.

46). Which of the following is a correct way to allocate memory for an array of 10 integers in C++?

1) int* arr = new int[10];

2) int arr = new int[10];

3) int arr[10] = new int;

4) None of the above

Your selected answer: int arr = new int[10];

Incorrect!

The correct answer is: **int* arr = new int[10];**.

47). Which of the following is the correct way to free memory allocated with `new`?

1) free()
2) delete()
3) remove()
4) dealloc()

Your selected answer: delete()

Correct!

48). Which of the following is used for exception handling in C++?

1) try-catch
2) throw-catch
3) try-throw
4) None of the above

Your selected answer: throw-catch

Incorrect!

The correct answer is: **try-catch**.

49). Which of the following is the correct way to define a default constructor in C++?

1) MyClass() {}
2) MyClass(void) {}
3) MyClass()
4) All of the above

Your selected answer: All of the above

Incorrect!

The correct answer is: **MyClass() {}**.

50). How do you define a class in C++?

1) class MyClass {};
2) class MyClass() {};
3) MyClass class {};
4) None of the above

Your selected answer: MyClass class {};

Incorrect!

The correct answer is: **class MyClass {};**.

Classes and Objects

1).What is a class in C++?

1) A user-defined data type
2) A built-in data type
3) A predefined function
4) None of the above

Your selected answer: A user-defined data type

Correct!

2).How do you create an object of a class in C++?

1) className obj;
2) obj className;
3) object className;
4) None of the above

Your selected answer: obj className;

Incorrect!

The correct answer is: **className obj;**.

3).Which access specifier allows members to be accessed outside the class?

1) private
2) protected
3) public
4) None of the above

Your selected answer: protected

Incorrect!

The correct answer is: **public**.

4).Which of the following defines a constructor in a class?

```
class Example {
public:
  Example() { }
};
```

1) Correct syntax
2) Error: Missing return type
3) Error: Missing parameters
4) None of the above

Your selected answer: Error: Missing parameters

Incorrect!

The correct answer is: **Correct syntax**.

5).How do you define a member function outside a class?

1) Using :: operator

2) Using . operator

3) Using -> operator

4) None of the above

Your selected answer: Using . operator

Incorrect!

The correct answer is: **Using :: operator**.

6).Which operator is used to access members of a class through a pointer?

1) .

2) ->

3) ::

4) None of the above

Your selected answer: ->

Correct!

7).What is the default access specifier for members in a class?

1) private

2) protected

3) public

4) None of the above

Your selected answer: private

Correct!

8).What happens if a constructor is not defined in a class?

1) Compiler provides a default constructor

2) Error is thrown

3) Class cannot be used

4) None of the above

Your selected answer: Class cannot be used

Incorrect!

The correct answer is: **Compiler provides a default constructor**.

9).What is a friend function in a class?

1) A function declared outside but has access to private members
2) A member function that is private
3) A function that belongs to a derived class
4) None of the above

Your selected answer: A function declared outside but has access to private members

Correct!

10).Which member function is called automatically when an object is destroyed?

1) Destructor
2) Constructor
3) Friend function
4) None of the above

Your selected answer: Constructor

Incorrect!

The correct answer is: **Destructor**.

Abstraction

1).What is abstraction in C++?

1) Hiding implementation details
2) Separating data from methods
3) Providing access to all data members
4) None of the above

Your selected answer: Hiding implementation details

Correct!

2).Which type of class supports abstraction?

1) Abstract class
2) Derived class
3) Friend class
4) None of the above

Your selected answer: Derived class

Incorrect!

The correct answer is: **Abstract class**.

3).Which keyword is used to declare an abstract class?

1) virtual
2) abstract
3) pure
4) None of the above

Your selected answer: abstract

Incorrect!

The correct answer is: **None of the above**.

4).What is the difference between abstraction and encapsulation?

1) Abstraction focuses on design, encapsulation focuses on implementation
2) Encapsulation hides data, abstraction hides implementation
3) Both A and B
4) None of the above

Your selected answer: Encapsulation hides data, abstraction hides implementation

Incorrect!

The correct answer is: **Both A and B**.

5).What is a pure virtual function?

1) A function with no implementation
2) A function with default implementation
3) A function that initializes data members
4) None of the above
Your selected answer: A function with default implementation
Incorrect!
The correct answer is: **A function with no implementation**.

6).Can an abstract class have a constructor?

1) Yes
2) No
3) Only for derived classes
4) None of the above
Your selected answer: None of the above
Incorrect!
The correct answer is: **Yes**.

7).What happens when you try to instantiate an abstract class?

1) Compiler error
2) A default object is created
3) The derived class is instantiated
4) None of the above
Your selected answer: Compiler error
Correct!

8).Why are abstract classes used in C++?

1) To provide a base for derived classes
2) To create objects directly
3) To ensure data hiding
4) None of the above
Your selected answer: To provide a base for derived classes
Correct!

9).Can an abstract class have non-pure virtual functions?

1) Yes
2) No
3) Only in derived classes
4) None of the above

Your selected answer: No

Incorrect!

The correct answer is: **Yes**.

10).Which of the following is an example of abstraction in C++?

1) Using interfaces

2) Using private members

3) Using inline functions

4) None of the above

Your selected answer: Using private members

Incorrect!

The correct answer is: **Using interfaces**.

Edit this page

Encapsulation

1).What is encapsulation in C++?

1) Bundling data and methods together
2) Inheritance of data members
3) Separating data from methods
4) None of the above

Your selected answer: Inheritance of data members

Incorrect!

The correct answer is: **Bundling data and methods together**.

2).Which access specifier provides the highest level of protection?

1) private
2) protected
3) public
4) None of the above

Your selected answer: protected

Incorrect!

The correct answer is: **private**.

3).What is the main purpose of encapsulation?

1) Data hiding
2) Memory management
3) Inheritance
4) None of the above

Your selected answer: Memory management

Incorrect!

The correct answer is: **Data hiding**.

4).Which of the following is true about encapsulation?

1) Encapsulation allows direct access to data
2) Encapsulation separates data from behavior
3) Encapsulation combines data and methods
4) None of the above

Your selected answer: Encapsulation separates data from behavior

Incorrect!

The correct answer is: **Encapsulation combines data and methods**.

5).How is encapsulation implemented in C++?

1) Using access specifiers
2) Using constructors and destructors
3) Using templates
4) None of the above

Your selected answer: Using constructors and destructors

Incorrect!

The correct answer is: **Using access specifiers**.

6).Which access specifier allows inheritance but restricts direct access?

1) protected
2) private
3) public
4) None of the above

Your selected answer: private

Incorrect!

The correct answer is: **protected**.

7).What is the difference between encapsulation and abstraction?

1) Encapsulation hides implementation, abstraction hides complexity
2) Abstraction focuses on design, encapsulation focuses on security
3) Both A and B
4) None of the above

Your selected answer: Abstraction focuses on design, encapsulation focuses on security

Incorrect!

The correct answer is: **Both A and B**.

8).Can private members of a class be accessed outside the class?

1) No
2) Yes
3) Only using friend functions
4) None of the above

Your selected answer: Only using friend functions

Correct!

9).What is a getter function?

1) A function to access private data
2) A function to modify private data
3) A function to initialize private data

4) None of the above

Your selected answer: A function to access private data

Correct!

10).Why is encapsulation considered a pillar of OOP?

1) It protects object integrity

2) It allows data hiding

3) It provides a clear interface

4) All of the above

Your selected answer: It allows data hiding

Incorrect!

The correct answer is: **All of the above**.

Edit this page

Polymorphism

1).What is polymorphism in C++?

1) Ability to process objects differently based on their type
2) Inheritance of base class properties
3) A type of memory management
4) None of the above

Your selected answer: Inheritance of base class properties

Incorrect!

The correct answer is: **Ability to process objects differently based on their type**.

2).What are the two types of polymorphism in C++?

1) Static and Dynamic
2) Compile-time and Runtime
3) Both A and B
4) None of the above

Your selected answer: Both A and B

Correct!

3).Which function is used to achieve runtime polymorphism?

1) Virtual function
2) Static function
3) Inline function
4) None of the above

Your selected answer: Static function

Incorrect!

The correct answer is: **Virtual function**.

4).What is required to make a function in a base class virtual?

1) Use the virtual keyword
2) Use the static keyword
3) Declare the function as private
4) None of the above

Your selected answer: Use the virtual keyword

Correct!

5).How does C++ implement runtime polymorphism?

1) By using vtables and vptr
2) Through function overloading
3) Using templates
4) None of the above
Your selected answer: By using vtables and vptr
Correct!

6).What is function overloading?

1) Same function name with different parameters
2) Multiple classes sharing the same function
3) A function calling itself
4) None of the above
Your selected answer: Multiple classes sharing the same function
Incorrect!
The correct answer is: **Same function name with different parameters**.

7).Can constructors be virtual in C++?

1) No
2) Yes
3) Only for abstract classes
4) None of the above
Your selected answer: Yes
Incorrect!
The correct answer is: **No**.

8).What is the difference between function overloading and overriding?

1) Overloading happens in the same class; overriding happens in inherited classes
2) Overriding requires virtual functions
3) Both A and B
4) None of the above
Your selected answer: Overriding requires virtual functions
Incorrect!
The correct answer is: **Both A and B**.

9).What is the purpose of the 'override' specifier in C++?

1) Ensures a function is overriding a base class function
2) Marks a function as virtual
3) Declares a function as static

4) None of the above

Your selected answer: Declares a function as static

Incorrect!

The correct answer is: **Ensures a function is overriding a base class function**.

10).Can a virtual function in the base class be overridden in the derived class?

1) Yes

2) No

3) Only if declared with final

4) None of the above

Your selected answer: Yes

Correct!

Edit this page

Inheritance

1).What is inheritance in C++?

1) A process of acquiring properties from another class
2) A process of creating new objects
3) A function of encapsulation
4) None of the above

Your selected answer: A function of encapsulation

Incorrect!

The correct answer is: **A process of acquiring properties from another class**.

2).Which type of inheritance is not supported in C++?

1) Multiple
2) Multilevel
3) Single
4) Cyclic

Your selected answer: Single

Incorrect!

The correct answer is: **Cyclic**.

3).Which keyword is used to define inheritance in C++?

1) extends
2) inherits
3) derived
4) None of the above

Your selected answer: derived

Incorrect!

The correct answer is: **None of the above**.

4).What is the base class in inheritance?

1) The class from which properties are inherited
2) The class that inherits properties
3) A function inside a class
4) None of the above

Your selected answer: A function inside a class

Incorrect!

The correct answer is: **The class from which properties are inherited**.

5).What access specifier is used to prevent inheritance?

1) private
2) protected
3) public
4) final

Your selected answer: protected
Incorrect!
The correct answer is: **final**.

6).What is a virtual base class?

1) A base class designed to avoid multiple inheritance conflicts
2) A base class for dynamic polymorphism
3) A base class that cannot have objects
4) None of the above

Your selected answer: A base class designed to avoid multiple inheritance conflicts
Correct!

7).What is the correct syntax for inheritance?

1) class Derived : public Base {}
2) class Derived inherits Base {}
3) class Derived :: Base {}
4) None of the above

Your selected answer: class Derived inherits Base {}
Incorrect!
The correct answer is: **class Derived : public Base {}**.

8).What is function overriding?

1) A derived class redefining a base class function
2) A function calling another function
3) A function with multiple definitions
4) None of the above

Your selected answer: A function calling another function
Incorrect!
The correct answer is: **A derived class redefining a base class function**.

9).Which of the following is an advantage of inheritance?

1) Code reuse
2) Improved encapsulation
3) Better performance

4) None of the above

Your selected answer: Better performance

Incorrect!

The correct answer is: **Code reuse**.

10).What is the use of the 'super' keyword in inheritance?

1) To access base class members

2) To call the base class constructor

3) Both A and B

4) None of the above

Your selected answer: Both A and B

Incorrect!

The correct answer is: **None of the above**.

Edit this page

Constructors and Destructors

1).What is a constructor in C++?

1) A special member function used to initialize objects
2) A function used to destroy objects
3) A function with a return type
4) None of the above

Your selected answer: None of the above

Incorrect!

The correct answer is: **A special member function used to initialize objects**.

2).Which of the following is true about constructors?

1) They have the same name as the class
2) They have a return type
3) They cannot be overloaded
4) None of the above

Your selected answer: They have a return type

Incorrect!

The correct answer is: **They have the same name as the class**.

3).What is a destructor in C++?

1) A special member function used to destroy objects
2) A function used to initialize objects
3) A function with a return type
4) None of the above

Your selected answer: A function used to initialize objects

Incorrect!

The correct answer is: **A special member function used to destroy objects**.

4).How many destructors can a class have?

1) Only one
2) Multiple
3) None
4) None of the above

Your selected answer: Multiple

Incorrect!

The correct answer is: **Only one**.

5).Which of the following is true about destructors?

1) They have the same name as the class but with a ~ prefix
2) They can be overloaded
3) They can have parameters
4) None of the above

Your selected answer: They can have parameters

Incorrect!

The correct answer is: **They have the same name as the class but with a ~ prefix**.

6).What happens if a class does not have a constructor?

1) A default constructor is automatically provided
2) The program will not compile
3) Objects cannot be created
4) None of the above

Your selected answer: A default constructor is automatically provided

Correct!

7).Which of the following is a valid constructor declaration?

1) ClassName();
2) ClassName(void);
3) Both A and B
4) None of the above

Your selected answer: Both A and B

Correct!

8).Can a constructor call another constructor in the same class?

1) Yes, using constructor delegation
2) No
3) Only in derived classes
4) None of the above

Your selected answer: Only in derived classes

Incorrect!

The correct answer is: **Yes, using constructor delegation**.

9).What is the purpose of a copy constructor?

1) To create a new object as a copy of an existing object
2) To destroy an object
3) To handle memory allocation
4) None of the above

Your selected answer: To destroy an object

Incorrect!

The correct answer is: **To create a new object as a copy of an existing object**.

10).When is a destructor automatically invoked?

1) When an object goes out of scope

2) When a new object is created

3) When a constructor is called

4) None of the above

Your selected answer: When a constructor is called

Incorrect!

The correct answer is: **When an object goes out of scope**.

Edit this page

control-flow

1).Which of the following is the correct syntax for an `if` statement in C++?

1) if (condition) { // code }
2) if condition { // code }
3) if {condition} { // code }
4) if: condition { // code }

Your selected answer: if condition { // code }

Incorrect!

The correct answer is: **if (condition) { // code }**.

2).Which of the following is the correct syntax to declare a `while` loop in C++?

1) while condition { // code }
2) while (condition) { // code }
3) while (condition) : { // code }
4) while {condition} { // code }

Your selected answer: while (condition) { // code }

Correct!

3).What is the output of the following C++ code?

```cpp
#include <iostream>
using namespace std;

int main() {
  for (int i = 0; i < 3; i++) {
      cout << i << " ";
  }
  return 0;
}
```

1) 0 1 2
2) 1 2 3
3) 0 1 2 3
4) 1 2 3 4

Your selected answer: 1 2 3 4

Incorrect!

The correct answer is: **0 1 2**.

4).What is the purpose of the `break` statement in C++?

1) To stop the execution of the program
2) To exit a loop or switch statement
3) To pause the program execution
4) To terminate the current function
Your selected answer: To exit a loop or switch statement
Correct!

5).Which loop is guaranteed to execute at least once in C++?

1) for loop
2) while loop
3) do-while loop
4) None of the above
Your selected answer: None of the above
Incorrect!
The correct answer is: **do-while loop**.

6).What is the correct syntax for a `switch` statement in C++?

1) switch (expression) { case x: // code; break; }
2) switch {expression} { case x: // code; break; }
3) switch: expression { case x: // code; break; }
4) switch(expression) { case x: // code }
Your selected answer: switch: expression { case x: // code; break; }
Incorrect!
The correct answer is: **switch (expression) { case x: // code; break; }**.

7).In which scenario would you use a `continue` statement in C++?

1) To stop the execution of the current loop iteration and move to the next iteration
2) To exit the loop entirely
3) To break out of a function
4) To jump to the end of the function
Your selected answer: To break out of a function
Incorrect!
The correct answer is: **To stop the execution of the current loop iteration and move to the next iteration**.

8) What is the output of the following C++ code?

```
#include <iostream>
using namespace std;

int main() {
  for (int i = 0; i < 3; i++) {
      if (i == 0) {
          cout << i << " ";
```

```
        } else if (i == 1) {
            cout << i << " ";
        } else {
            cout << i << " ";
        }
    }
    return 0;
}
```

1) 0 1 2
2) 1 2 3
3) 0 1 2 3
4) 0 1 2 3 4

Your selected answer: 0 1 2 3

Incorrect!

The correct answer is: **0 1 2**.

9).What will be printed if the following C++ code is executed?

1) Less than 5
2) Equal to 10
3) Greater than 5
4) Nothing will be printed

Your selected answer: Nothing will be printed

Incorrect!

The correct answer is: **Equal to 10**.

10).Which of the following statements is true about a `do-while` loop in C++?

1) It is guaranteed to execute at least once
2) It may not execute at all
3) It requires the condition to be checked first
4) None of the above

Your selected answer: It is guaranteed to execute at least once

Correct!

data-types

// C++ Data Types Quiz

1).Which of the following is a built-in data type in C++?

1) int
2) string
3) list
4) vector
Your selected answer: string
Incorrect!
The correct answer is: **int**.

2).What is the size of a `float` data type in C++?

1) 4 bytes
2) 8 bytes
3) 16 bytes
4) 2 bytes
Your selected answer: 8 bytes
Incorrect!
The correct answer is: **4 bytes**.

3).Which of the following data types is used to store a single character?

1) char
2) int
3) float
4) string
Your selected answer: char
Correct!

4).What is the default value of an uninitialized `int` variable in C++?

1) 0
2) undefined
3) null
4) It throws an error.
Your selected answer: null
Incorrect!

The correct answer is: **undefined**.

5).Which of the following is a non-built-in (user-defined) data type in C++?

1) struct
2) int
3) char
4) float
Your selected answer: int
Incorrect!
The correct answer is: **struct**.

6).Which data type would you use to store large integers in C++?

1) long long int
2) int
3) short
4) char
Your selected answer: int
Incorrect!
The correct answer is: **long long int**.

7).Which of the following is the correct syntax to declare a pointer to an integer in C++?

1) int *p;
2) pointer int p;
3) int p*;
4) pointer *int p;
Your selected answer: pointer int p;
Incorrect!
The correct answer is: **int *p;**.

8).Which of the following data types has the largest range in C++?

1) long long int
2) int
3) float
4) double
Your selected answer: double
Incorrect!
The correct answer is: **long long int**.

9).What is the size of a `bool` data type in C++?

1) 1 byte

2) 4 bytes

3) 8 bytes

4) 2 bytes

Your selected answer: 1 byte

Correct!

10).Which of the following is a valid declaration for a constant variable in C++?

1) const float pi = 3.14;

2) float pi const = 3.14;

3) constant float pi = 3.14;

4) pi = const 3.14;

Your selected answer: const float pi = 3.14;

Correct!

array-and-strings

1).Which of the following is the correct syntax to declare an array in C++?

1) int arr[];
2) int[] arr;
3) array<int> arr;
4) None of the above
Your selected answer: int arr[];
Correct!

2).What is the index of the first element of an array in C++?

1) 1
2) 0
3) -1
4) None of the above
Your selected answer: 0
Correct!

3).What will be the output of the following code?

```
#include <iostream>
using namespace std;

int main() {
int arr[] = {10, 20, 30, 40};
cout << arr[1];
return 0;
}
```

1) 10
2) 20
3) 30
4) 40
Your selected answer: 20
Correct!

4).Which function is used to find the length of a string in C++?

1) length()
2) size()

3) str_length()

4) None of the above

Your selected answer: None of the above

Incorrect!

The correct answer is: **length()**.

5).Which of the following is the correct way to initialize a string in C++?

1) string str = "Hello";

2) char str[] = "Hello";

3) char[] str = "Hello";

4) All of the above

Your selected answer: char str[] = "Hello";

Incorrect!

The correct answer is: **All of the above**.

6).Which of the following functions is used to copy one string to another in C++?

1) strcpy()

2) string_copy()

3) copy_string()

4) None of the above

Your selected answer: string_copy()

Incorrect!

The correct answer is: **strcpy()**.

7).What will be the output of the following code?

```
#include <iostream>
#include <cstring>
using namespace std;

int main() {
char str1[] = "Hello";
char str2[] = "Hello";
cout << (strcmp(str1, str2) == 0 ? "Equal" : "Not Equal");
return 0;
}
```

1) Equal

2) Not Equal

3) Error

4) None of the above

Your selected answer: Not Equal

Incorrect!

The correct answer is: **Equal**.

8).What is the size of the array `int arr[5]` in C++?

1) 5
2) 10
3) 20
4) Depends on the compiler

Your selected answer: 10

Incorrect!

The correct answer is: **5**.

9).How do you access the third element of an array `arr[]` in C++?

1) arr[2]
2) arr[3]
3) arr(2)
4) arr(3)

Your selected answer: arr(2)

Incorrect!

The correct answer is: **arr[2]**.

10).What is the correct way to declare a multidimensional array in C++?

1) int arr[3][3];
2) int arr[3,3];
3) int arr[3, 3] = {};
4) None of the above

Your selected answer: int arr[3][3];

Correct!

Exception Handling

1).What is the purpose of exception handling in C++?

1) To handle errors
2) To make code more readable
3) To optimize performance
4) None of the above

Your selected answer: To make code more readable

Incorrect!

The correct answer is: **To handle errors**.

2).Which of the following keywords is used to throw an exception?

1) throw
2) catch
3) try
4) exception

Your selected answer: catch

Incorrect!

The correct answer is: **throw**.

3).What is the keyword used to handle an exception?

1) catch
2) try
3) throw
4) exception

Your selected answer: catch

Correct!

4).Which of the following is the correct syntax for handling exceptions?

1) try { // code } catch(exception e) { // code }
2) catch(exception e) { // code } try { // code }
3) try catch { // code }
4) None of the above

Your selected answer: catch(exception e) { // code } try { // code }

Incorrect!

The correct answer is: **try { // code } catch(exception e) { // code }**.

5).Can a C++ function throw multiple exceptions?

1) Yes
2) No
3) Only for different types
4) Only in specific cases
Your selected answer: Yes
Correct!

6).What happens when an exception is not caught?

1) Program terminates
2) Exception is ignored
3) A default exception handler is invoked
4) None of the above
Your selected answer: Exception is ignored
Incorrect!
The correct answer is: **Program terminates**.

7).What is a standard exception in C++?

1) An exception that is defined in the C++ standard library
2) A user-defined exception
3) An exception that is raised by the compiler
4) None of the above
Your selected answer: A user-defined exception
Incorrect!
The correct answer is: **An exception that is defined in the C++ standard library**.

8).What does the 'throw' keyword do?

1) Throws an exception
2) Catches an exception
3) Terminates the program
4) None of the above
Your selected answer: Terminates the program
Incorrect!
The correct answer is: **Throws an exception**.

9).Which class is the base class for all exceptions in C++?

1) std::exception
2) std::runtime_error
3) std::error

4) None of the above

Your selected answer: std::runtime_error

Incorrect!

The correct answer is: **std::exception**.

10).What is a 'catch' block used for?

1) To handle exceptions

2) To throw exceptions

3) To define exception types

4) None of the above

Your selected answer: To define exception types

Incorrect!

The correct answer is: **To handle exceptions**.

Edit this page

Friend Functions

1).What is a friend function in C++?

1) A function that can access private and protected members of a class
2) A function declared inside another function
3) A function used for operator overloading
4) None of the above

Your selected answer: A function that can access private and protected members of a class

Correct!

2).How is a friend function declared?

1) Using the friend keyword
2) Using the public keyword
3) Using the virtual keyword
4) None of the above

Your selected answer: Using the public keyword

Incorrect!

The correct answer is: **Using the friend keyword**.

3).Can a friend function be a member of a class?

1) No
2) Yes
3) Only in derived classes
4) None of the above

Your selected answer: Only in derived classes

Incorrect!

The correct answer is: **No**.

4).Which of the following can be a friend function?

1) A non-member function
2) A member function of another class
3) Both A and B
4) None of the above

Your selected answer: A member function of another class

Incorrect!

The correct answer is: **Both A and B**.

5).What is the purpose of a friend function?

1) To provide controlled access to private data
2) To inherit properties from a base class
3) To override virtual functions
4) None of the above

Your selected answer: To inherit properties from a base class

Incorrect!

The correct answer is: **To provide controlled access to private data**.

6).Can friend functions be inherited?

1) No
2) Yes
3) Only in certain cases
4) None of the above

Your selected answer: None of the above

Incorrect!

The correct answer is: **No**.

7).What is the scope of a friend function?

1) It is not limited to the class
2) It is limited to the class
3) It has global scope
4) None of the above

Your selected answer: It is limited to the class

Incorrect!

The correct answer is: **It is not limited to the class**.

8).Can a friend function access the members of multiple classes?

1) Yes
2) No
3) Only if those classes are related
4) None of the above

Your selected answer: Only if those classes are related

Incorrect!

The correct answer is: **Yes**.

9).Which of the following is true about friend functions?

1) They violate encapsulation
2) They increase security

3) They require virtual inheritance

4) None of the above

Your selected answer: They increase security

Incorrect!

The correct answer is: **They violate encapsulation**.

10).Can a friend function be overloaded?

1) Yes

2) No

3) Only with operator functions

4) None of the above

Your selected answer: No

Incorrect!

The correct answer is: **Yes**.

functions

1).What is the correct way to declare a function in C++?

1) void functionName()
2) functionName() void
3) function void()
4) None of the above

Your selected answer: functionName() void

Incorrect!

The correct answer is: **void functionName()**.

2).Which of the following is the correct syntax for passing arguments to a function in C++?

1) functionName(arg1, arg2)
2) functionName{arg1, arg2}
3) functionName[arg1, arg2]
4) functionName(arg1: arg2)

Your selected answer: functionName(arg1, arg2)

Correct!

3).What is the purpose of the `return` statement in C++ functions?

1) To stop the function execution
2) To return a value to the calling function
3) To pass control to the next function
4) To call another function

Your selected answer: To return a value to the calling function

Correct!

4).Which of the following is true about function overloading in C++?

1) Functions with the same name but different parameter types can be overloaded
2) Functions with the same name and parameters cannot be overloaded
3) Function overloading is not allowed in C++
4) None of the above

Your selected answer: Functions with the same name but different parameter types can be overloaded

Correct!

5).What will happen if a function does not have a return statement in C++?

1) The program will terminate
2) The function will return a random value
3) The function will not return anything
4) Compilation error
Your selected answer: The function will not return anything
Correct!

6).Which keyword is used to define a function in C++ that does not return any value?

1) void
2) return
3) static
4) None of the above
Your selected answer: static
Incorrect!
The correct answer is: **void**.

7).Which of the following is a valid recursive function in C++?

1) int factorial(int n) { if (n == 0) return 1; else return n * factorial(n-1); }
2) int factorial(int n) { return n * factorial(n); }
3) int factorial(int n) { return n; }
4) None of the above
Your selected answer: int factorial(int n) { return n * factorial(n); }
Incorrect!
The correct answer is: **int factorial(int n) { if (n == 0) return 1; else return n * factorial(n-1); }**.

8).What does the `inline` keyword do in C++?

1) It tells the compiler to insert the function code directly at the point of call
2) It defines a function with no return type
3) It ensures the function is only called once
4) None of the above
Your selected answer: It ensures the function is only called once
Incorrect!
The correct answer is: **It tells the compiler to insert the function code directly at the point of call**.

9).What is the correct way to declare a function that returns a pointer to an integer in C++?

1) int* functionName()
2) int functionName*()

3) int* functionName*()

4) None of the above

Your selected answer: int* functionName*()

Incorrect!

The correct answer is: **int* functionName()**.

10).Which of the following is the correct syntax for passing a reference to a function in C++?

1) functionName(int& x)

2) functionName(&int x)

3) functionName(int* x)

4) None of the above

Your selected answer: functionName(int& x)

Correct!

loop

1).Which of the following is the correct syntax for an `if` statement in C++?

1) if (condition) { // code }
2) if condition { // code }
3) if {condition} { // code }
4) if: condition { // code }

Your selected answer: if condition { // code }

Incorrect!

The correct answer is: **if (condition) { // code }**.

2).Which of the following is the correct syntax to declare a `while` loop in C++?

1) while condition { // code }
2) while (condition) { // code }
3) while (condition) : { // code }
4) while {condition} { // code }

Your selected answer: while (condition) { // code }

Correct!

3).What is the output of the following C++ code?

```
#include <iostream>
using namespace std;

int main() {
for (int i = 0; i < 3; i++) {
  cout << i << " ";
}
return 0;
}
```

1) 0 1 2
2) 1 2 3
3) 0 1 2 3
4) 1 2 3 4

Your selected answer: 1 2 3 4

Incorrect!

The correct answer is: **0 1 2**.

4).What is the purpose of the `break` statement in C++?

1) To stop the execution of the program
2) To exit a loop or switch statement
3) To pause the program execution
4) To terminate the current function
Your selected answer: To exit a loop or switch statement
Correct!

5).Which loop is guaranteed to execute at least once in C++?

1) for loop
2) while loop
3) do-while loop
4) None of the above
Your selected answer: while loop
Incorrect!
The correct answer is: **do-while loop**.

6).What is the correct syntax for a `switch` statement in C++?

1) switch (expression) { case x: // code; break; }
2) switch {expression} { case x: // code; break; }
3) switch: expression { case x: // code; break; }
4) switch(expression) { case x: // code }
Your selected answer: switch {expression} { case x: // code; break; }
Incorrect!
The correct answer is: **switch (expression) { case x: // code; break; }**.

7).In which scenario would you use a `continue` statement in C++?

1) To stop the execution of the current loop iteration and move to the next iteration
2) To exit the loop entirely
3) To break out of a function
4) To jump to the end of the function
Your selected answer: To exit the loop entirely
Incorrect!
The correct answer is: **To stop the execution of the current loop iteration and move to the next iteration**.

8).What is the output of the following C++ code?

```
#include <iostream>
using namespace std;

int main() {
for (int i = 0; i < 4; i++) {
  cout << i << " ";
}
```

```
return 0;
}
```

1) 0 1 2
2) 1 2 3
3) 0 1 2 3
4) 0 1 2 3 4

Your selected answer: 1 2 3

Incorrect!

The correct answer is: **0 1 2 3**.

9).What will be printed if the following C++ code is executed?

```
#include <iostream>
using namespace std;

int main() {
int x = 10;
if (x < 5) {
  cout << "Less than 5";
} else if (x > 5) {
  cout << "Greater than 5";
} else {
  cout << "Equal to 10";
}
return 0;
}
```

1) Less than 5
2) Equal to 10
3) Greater than 5
4) Nothing will be printed

Your selected answer: Greater than 5

Incorrect!

The correct answer is: **Equal to 10**.

10).Which of the following statements is true about a `do-while` loop in C++?

1) It is guaranteed to execute at least once
2) It may not execute at all
3) It requires the condition to be checked first
4) None of the above

Your selected answer: It may not execute at all

Incorrect!

The correct answer is: **It is guaranteed to execute at least once**.

Object-Oriented Programming (OOP)

1).What does OOP stand for?

1) Object-Oriented Programming
2) Object-Oriented Procedure
3) Organized Object Programming
4) None of the above

Your selected answer: Object-Oriented Programming

Correct!

2).Which of the following is not a feature of OOP?

1) Encapsulation
2) Polymorphism
3) Inheritance
4) Compilation

Your selected answer: Polymorphism

Incorrect!

The correct answer is: **Compilation**.

3).Which keyword is used to define a class in C++?

1) class
2) struct
3) object
4) None of the above

Your selected answer: struct

Incorrect!

The correct answer is: **class**.

4).What is an object in C++?

1) An instance of a class
2) A type of function
3) A variable
4) None of the above

Your selected answer: A type of function

Incorrect!

The correct answer is: **An instance of a class**.

5).What is a key benefit of OOP?

1) Code reuse
2) Faster compilation
3) Reduced memory usage
4) None of the above

Your selected answer: Faster compilation

Incorrect!

The correct answer is: **Code reuse**.

6).Which feature of OOP ensures code security?

1) Abstraction
2) Encapsulation
3) Polymorphism
4) Inheritance

Your selected answer: Polymorphism

Incorrect!

The correct answer is: **Encapsulation**.

7).What is the process of creating objects from a class called?

1) Initialization
2) Instantiation
3) Compilation
4) Execution

Your selected answer: Compilation

Incorrect!

The correct answer is: **Instantiation**.

8).Which feature of OOP allows a class to acquire properties of another class?

1) Inheritance
2) Polymorphism
3) Abstraction
4) Encapsulation

Your selected answer: Polymorphism

Incorrect!

The correct answer is: **Inheritance**.

9).What is an abstract class in C++?

1) A class with no methods
2) A class with at least one pure virtual function

3) A class that cannot have objects

4) None of the above

Your selected answer: A class with at least one pure virtual function

Correct!

10).What is a virtual function in C++?

1) A function that can be overridden in a derived class

2) A function that is always public

3) A function that is static

4) None of the above

Your selected answer: A function that is always public

Incorrect!

The correct answer is: **A function that can be overridden in a derived class**.

Edit this page

Operator Overloading

1).What is operator overloading in C++?

1) Redefining the behavior of operators for user-defined types
2) Using operators in loops
3) Adding new operators
4) None of the above

Your selected answer: Using operators in loops

Incorrect!

The correct answer is: **Redefining the behavior of operators for user-defined types**.

2).Which keyword is used for operator overloading?

1) operator
2) overload
3) override
4) None of the above

Your selected answer: overload

Incorrect!

The correct answer is: **operator**.

3).Can all operators be overloaded?

1) No
2) Yes
3) Only arithmetic operators
4) None of the above

Your selected answer: None of the above

Incorrect!

The correct answer is: **No**.

4).Which operator cannot be overloaded?

1) .
2) ::
3) sizeof
4) All of the above

Your selected answer: ::

Incorrect!

The correct answer is: **All of the above**.

5).What is the syntax for overloading an operator?

1) ReturnType operatorSymbol(ParameterList)
2) operator ReturnType Symbol(ParameterList)
3) Symbol operator ReturnType(ParameterList)
4) None of the above
Your selected answer: ReturnType operatorSymbol(ParameterList)
Correct!

6).Can operator overloading change the precedence of an operator?

1) No
2) Yes
3) Only for arithmetic operators
4) None of the above
Your selected answer: Only for arithmetic operators
Incorrect!
The correct answer is: **No**.

7).What is the purpose of operator overloading?

1) To work with user-defined data types
2) To modify operator precedence
3) To improve memory management
4) None of the above
Your selected answer: None of the above
Incorrect!
The correct answer is: **To work with user-defined data types**.

8).Can operator overloading be done for all data types?

1) No, only for user-defined types
2) Yes, for all types
3) Only for primitive types
4) None of the above
Your selected answer: No, only for user-defined types
Correct!

9).What is the return type of the overloaded assignment operator?

1) Class reference
2) Void
3) New object
4) None of the above

Your selected answer: New object

Incorrect!

The correct answer is: **Class reference**.

10).Can the addition operator (+) be overloaded for strings?

1) Yes

2) No

3) Only for integer strings

4) None of the above

Your selected answer: No

Incorrect!

The correct answer is: **Yes**.

Edit this page

pointers-strings

1).What is the correct syntax to declare a pointer in C++?

1) int* ptr;
2) pointer int ptr;
3) ptr int*;
4) None of the above

Your selected answer: ptr int*;

Incorrect!

The correct answer is: **int* ptr;**.

2).Which of the following is used to access the value at the pointer address in C++?

1) *
2) &
3) #
4) %

Your selected answer: &

Incorrect!

The correct answer is: *****.

3).What will be the output of the following code?

```
#include <iostream>
using namespace std;

int main() {
int x = 10;
int* ptr = &x;
cout << *ptr;
return 0;
}
```

1) 10
2) x
3) ptr
4) Error

Your selected answer: x

Incorrect!

The correct answer is: **10**.

4).What is the correct way to declare a reference in C++?

1) int& ref;
2) reference int ref;
3) ref int&;
4) None of the above
Your selected answer: reference int ref;
Incorrect!
The correct answer is: **int& ref;**.

5).Which operator is used to obtain the address of a variable in C++?

1) *
2) &
3) @
4) #
Your selected answer: &
Correct!

6).What is the purpose of the `nullptr` keyword in C++?

1) It is used to initialize a pointer to null
2) It is used to delete a pointer
3) It is used to declare a reference
4) None of the above
Your selected answer: It is used to declare a reference
Incorrect!
The correct answer is: **It is used to initialize a pointer to null**.

7).What will happen if you dereference a null pointer in C++?

1) The program will terminate
2) The value will be 0
3) It will return an error
4) Nothing will happen
Your selected answer: The value will be 0
Incorrect!
The correct answer is: **The program will terminate**.

8).Which of the following functions is used to get the size of a pointer in C++?

1) sizeof()
2) length()
3) size()

4) None of the above

Your selected answer: length()

Incorrect!

The correct answer is: **sizeof()**.

9).What is the difference between a pointer and a reference in C++?

1) A reference must be initialized at declaration, a pointer can be null

2) A pointer cannot be null, a reference can be

3) A pointer is always constant, a reference is not

4) None of the above

Your selected answer: A pointer is always constant, a reference is not

Incorrect!

The correct answer is: **A reference must be initialized at declaration, a pointer can be null**.

10).What will be the output of the following code?

```
#include <iostream>
using namespace std;

int main() {
int x = 10;
int& ref = x;
ref = 20;
cout << x;
return 0;
}
```

1) 10

2) 20

3) Error

4) None of the above

Your selected answer: None of the above

Incorrect!

The correct answer is: **20**.

variables-and-constants

// C++ Data Types Quiz

1).Which of the following is a built-in data type in C++?

1) int
2) string
3) list
4) vector
Your selected answer: int
Correct!

2).What is the size of a `float` data type in C++?

1) 4 bytes
2) 8 bytes
3) 16 bytes
4) 2 bytes
Your selected answer: 16 bytes
Incorrect!
The correct answer is: **4 bytes**.

3).Which of the following data types is used to store a single character?

1) char
2) int
3) float
4) string
Your selected answer: int
Incorrect!
The correct answer is: **char**.

4).What is the default value of an uninitialized `int` variable in C++?

1) 0
2) undefined
3) null
4) It throws an error.
Your selected answer: undefined
Correct!

5).Which of the following is a non-built-in (user-defined) data type in C++?

1) struct
2) int
3) char
4) float

Your selected answer: struct

Correct!

6).Which data type would you use to store large integers in C++?

1) long long int
2) int
3) short
4) char

Your selected answer: int

Incorrect!

The correct answer is: **long long int**.

7).Which of the following is the correct syntax to declare a pointer to an integer in C++?

1) int *p;
2) pointer int p;
3) int p*;
4) pointer *int p;

Your selected answer: pointer int p;

Incorrect!

The correct answer is: **int *p;**.

8).Which of the following data types has the largest range in C++?

1) long long int
2) int
3) float
4) double

Your selected answer: float

Incorrect!

The correct answer is: **long long int**.

9).What is the size of a `bool` data type in C++?

1) 1 byte
2) 4 bytes
3) 8 bytes

4) 2 bytes

Your selected answer: 8 bytes

Incorrect!

The correct answer is: **1 byte**.

10).Which of the following is a valid declaration for a constant variable in C++?

1) const float pi = 3.14;

2) float pi const = 3.14;

3) constant float pi = 3.14;

4) pi = const 3.14;

Your selected answer: const float pi = 3.14;

Correct!

Edit this page

File Handling

1).What is file handling in C++?

1) Managing files for reading and writing
2) Creating classes
3) Handling memory leaks
4) None of the above

Your selected answer: Handling memory leaks

Incorrect!

The correct answer is: **Managing files for reading and writing**.

2).Which header file is required for file handling?

1) <fstream>
2) <iostream>
3) <file.h>
4) None of the above

Your selected answer: <file.h>

Incorrect!

The correct answer is: **<fstream>**.

3).Which class is used for reading from files?

1) ifstream
2) ofstream
3) fstream
4) None of the above

Your selected answer: ofstream

Incorrect!

The correct answer is: **ifstream**.

4).Which class is used for writing to files?

1) ofstream
2) ifstream
3) fstream
4) None of the above

Your selected answer: ifstream

Incorrect!

The correct answer is: **ofstream**.

5).How do you open a file in append mode?

1) ios::app
2) ios::in
3) ios::out
4) None of the above
Your selected answer: ios::in
Incorrect!
The correct answer is: **ios::app**.

6).What is the default mode for opening a file?

1) ios::in
2) ios::out
3) ios::binary
4) None of the above
Your selected answer: ios::out
Incorrect!
The correct answer is: **ios::in**.

7).How do you check if a file was opened successfully?

1) Use the is_open() method
2) Check the file size
3) Read the file header
4) None of the above
Your selected answer: Use the is_open() method
Correct!

8).What does the eof() function check?

1) End of file
2) File size
3) File permissions
4) None of the above
Your selected answer: File size
Incorrect!
The correct answer is: **End of file**.

9).How do you close a file in C++?

1) Use the close() method
2) Use the end() method
3) Use the terminate() method

4) None of the above

Your selected answer: Use the end() method

Incorrect!

The correct answer is: **Use the close() method**.

10).What happens if you try to read from a file that doesn’t exist?

1) An error occurs

2) A new file is created

3) The program crashes

4) None of the above

Your selected answer: The program crashes

Incorrect!

The correct answer is: **An error occurs**.

Edit this page

Memory Management

1).What is dynamic memory allocation in C++?

1) Allocating memory during runtime
2) Allocating memory during compile time
3) Using static memory
4) None of the above

Your selected answer: Allocating memory during runtime

Correct!

2).Which operator is used for dynamic memory allocation?

1) new
2) malloc
3) allocate
4) None of the above

Your selected answer: allocate

Incorrect!

The correct answer is: **new**.

3).Which operator is used to deallocate memory in C++?

1) delete
2) free
3) dispose
4) None of the above

Your selected answer: free

Incorrect!

The correct answer is: **delete**.

4).What is a memory leak?

1) Memory that is not deallocated
2) Memory allocated at compile time
3) Excessive memory usage
4) None of the above

Your selected answer: Memory allocated at compile time

Incorrect!

The correct answer is: **Memory that is not deallocated**.

5).What is a smart pointer?

1) A pointer that automatically manages memory
2) A pointer that points to other pointers
3) A pointer that only works with arrays
4) None of the above

Your selected answer: A pointer that automatically manages memory

Correct!

6).What does the new operator return?

1) A pointer to the allocated memory
2) The size of allocated memory
3) The address of the deallocated memory
4) None of the above

Your selected answer: The size of allocated memory

Incorrect!

The correct answer is: **A pointer to the allocated memory**.

7).What is the difference between malloc and new?

1) malloc is procedural, new is object-oriented
2) malloc does not call constructors
3) Both A and B
4) None of the above

Your selected answer: Both A and B

Correct!

8).What happens if delete is used on NULL?

1) No operation is performed
2) It causes a segmentation fault
3) It deallocates NULL
4) None of the above

Your selected answer: No operation is performed

Correct!

9).Which smart pointer type prevents cyclic references?

1) weak_ptr
2) shared_ptr
3) unique_ptr
4) None of the above

Your selected answer: shared_ptr

Incorrect!

The correct answer is: **weak_ptr**.

10).What is the purpose of the delete[] operator?

1) To deallocate memory allocated for arrays

2) To deallocate static memory

3) To deallocate class objects

4) None of the above

Your selected answer: To deallocate memory allocated for arrays

Correct!

Edit this page

Smart Pointers

1).What is a smart pointer in C++?

1) A pointer that manages dynamic memory
2) A pointer that always points to a valid memory
3) A pointer that can be dereferenced
4) None of the above

Your selected answer: A pointer that manages dynamic memory

Correct!

2).Which type of smart pointer automatically deallocates memory when it goes out of scope?

1) std::unique_ptr
2) std::shared_ptr
3) std::weak_ptr
4) None of the above

Your selected answer: std::shared_ptr

Incorrect!

The correct answer is: **std::unique_ptr**.

3).What is the purpose of `std::shared_ptr`?

1) To manage shared ownership of a dynamically allocated object
2) To avoid memory leaks
3) To allocate memory for variables
4) None of the above

Your selected answer: To allocate memory for variables

Incorrect!

The correct answer is: **To manage shared ownership of a dynamically allocated object**.

4).Which of the following smart pointers allows multiple pointers to share ownership of the same object?

1) std::unique_ptr
2) std::shared_ptr
3) std::weak_ptr
4) None of the above

Your selected answer: std::unique_ptr

Incorrect!

The correct answer is: **std::shared_ptr**.

5).What is the purpose of `std::weak_ptr`?

1) To observe an object without affecting its reference count
2) To provide exclusive ownership
3) To manage multiple references
4) None of the above

Your selected answer: To manage multiple references

Incorrect!

The correct answer is: **To observe an object without affecting its reference count**.

6).How does `std::unique_ptr` ensure there is only one owner of the object?

1) By deleting the object when it goes out of scope
2) By preventing copying of the pointer
3) By allowing shared ownership
4) None of the above

Your selected answer: By preventing copying of the pointer

Correct!

7).What happens if a `std::shared_ptr` is copied?

1) It creates a new pointer pointing to the same object
2) It deletes the object
3) It throws an exception
4) None of the above

Your selected answer: It creates a new pointer pointing to the same object

Correct!

8).Which of the following is true about `std::weak_ptr`?

1) It does not contribute to reference counting
2) It manages the memory of the object
3) It is used for unique ownership
4) None of the above

Your selected answer: It is used for unique ownership

Incorrect!

The correct answer is: **It does not contribute to reference counting**.

9).Can you assign a `std::unique_ptr` to a `std::shared_ptr`?

1) Yes
2) No

3) It depends on the compiler

4) None of the above

Your selected answer: No

Correct!

10).Which of the following smart pointers should be used when you want shared ownership and the possibility of multiple owners?

1) std::unique_ptr

2) std::shared_ptr

3) std::weak_ptr

4) None of the above

Your selected answer: std::weak_ptr

Incorrect!

The correct answer is: **std::shared_ptr**.

io

1).What is the correct way to declare a function in C++?

1) void functionName()
2) functionName() void
3) function void()
4) None of the above

Your selected answer: functionName() void

Incorrect!

The correct answer is: **void functionName()**.

2).Which of the following is the correct syntax for passing arguments to a function in C++?

1) functionName(arg1, arg2)
2) functionName{arg1, arg2}
3) functionName[arg1, arg2]
4) functionName(arg1: arg2)

Your selected answer: functionName(arg1, arg2)

Correct!

3).What is the purpose of the `return` statement in C++ functions?

1) To stop the function execution
2) To return a value to the calling function
3) To pass control to the next function
4) To call another function

Your selected answer: To call another function

Incorrect!

The correct answer is: **To return a value to the calling function**.

4).Which of the following is true about function overloading in C++?

1) Functions with the same name but different parameter types can be overloaded
2) Functions with the same name and parameters cannot be overloaded
3) Function overloading is not allowed in C++
4) None of the above

Your selected answer: Functions with the same name and parameters cannot be overloaded

Incorrect!

The correct answer is: **Functions with the same name but different parameter types can be overloaded**.

5).What will happen if a function does not have a return statement in C++?

1) The program will terminate
2) The function will return a random value
3) The function will not return anything
4) Compilation error
Your selected answer: The function will not return anything
Correct!

6).Which keyword is used to define a function in C++ that does not return any value?

1) void
2) return
3) static
4) None of the above
Your selected answer: None of the above
Incorrect!
The correct answer is: **void**.

7).Which of the following is a valid recursive function in C++?

1) int factorial(int n) { if (n == 0) return 1; else return n * factorial(n-1); }
2) int factorial(int n) { return n * factorial(n); }
3) int factorial(int n) { return n; }
4) None of the above
Your selected answer: int factorial(int n) { return n; }
Incorrect!
The correct answer is: **int factorial(int n) { if (n == 0) return 1; else return n * factorial(n-1); }**.

8).What does the `inline` keyword do in C++?

1) It tells the compiler to insert the function code directly at the point of call
2) It defines a function with no return type
3) It ensures the function is only called once
4) None of the above
Your selected answer: None of the above
Incorrect!
The correct answer is: **It tells the compiler to insert the function code directly at the point of call**.

9).What is the correct way to declare a function that returns a pointer to an integer in C++?

1) int* functionName()
2) int functionName*()

3) int* functionName*()

4) None of the above

Your selected answer: int* functionName()

Correct!

10).Which of the following is the correct syntax for passing a reference to a function in C++?

1) functionName(int& x)

2) functionName(&int x)

3) functionName(int* x)

4) None of the above

Your selected answer: functionName(&int x)

Incorrect!

The correct answer is: **functionName(int& x)**.

STL: Standard Template Library

1).What does STL stand for in C++?

1) Standard Template Library
2) Standard Type Library
3) Standard Test Library
4) None of the above

Your selected answer: None of the above

Incorrect!

The correct answer is: **Standard Template Library**.

2).Which of the following is NOT a component of the C++ STL?

1) Containers
2) Algorithms
3) Iterators
4) Memory Management

Your selected answer: Memory Management

Correct!

3).Which header file is required for using the vector container in STL?

1) <vector>
2) <iostream>
3) <algorithm>
4) <list>

Your selected answer: <list>

Incorrect!

The correct answer is: **<vector>**.

4).What type of container is std::vector?

1) Sequence container
2) Associative container
3) Container adapter
4) None of the above

Your selected answer: None of the above

Incorrect!

The correct answer is: **Sequence container**.

5).Which STL container is best for fast insertion and deletion from both ends?

1) std::list
2) std::vector
3) std::deque
4) std::map

Your selected answer: std::vector

Incorrect!

The correct answer is: **std::deque**.

6).Which STL algorithm is used to find an element in a container?

1) find()
2) search()
3) locate()
4) find_element()

Your selected answer: find_element()

Incorrect!

The correct answer is: **find()**.

7).Which of the following STL containers is used for key-value pairs?

1) std::map
2) std::list
3) std::deque
4) std::vector

Your selected answer: std::map

Correct!

8).What does the std::sort() function do in STL?

1) Sorts the elements of a container
2) Reverses the container
3) Finds the maximum element
4) None of the above

Your selected answer: Reverses the container

Incorrect!

The correct answer is: **Sorts the elements of a container**.

9).Which function is used to remove an element from a vector in STL?

1) erase()
2) remove()
3) pop_back()

4) delete()

Your selected answer: pop_back()

Incorrect!

The correct answer is: **erase()**.

10).Which container type is the fastest for random access?

1) std::vector

2) std::list

3) std::deque

4) std::map

Your selected answer: std::deque

Incorrect!

The correct answer is: **std::vector**.

Vectors and Dynamic Arrays

1).What is the main advantage of using a vector in C++ over an array?

1) Dynamic resizing
2) Fixed size
3) Faster access time
4) None of the above

Your selected answer: None of the above

Incorrect!

The correct answer is: **Dynamic resizing**.

2).Which of the following methods adds an element to the end of a vector?

1) push_back()
2) append()
3) insert()
4) add()

Your selected answer: push_back()

Correct!

3).How can you initialize a vector with predefined values?

1) vector<int> v(5, 10);
2) vector<int> v = {10, 20, 30};
3) vector<int> v(5);
4) All of the above

Your selected answer: vector<int> v(5);

Incorrect!

The correct answer is: **All of the above**.

4).What does the 'resize' method of a vector do?

1) Changes the size of the vector
2) Sorts the vector
3) Removes all elements
4) None of the above

Your selected answer: Changes the size of the vector

Correct!

5).Which of the following is a drawback of using vectors?

1) Increased memory consumption
2) Slow resizing performance
3) No random access
4) None of the above

Your selected answer: No random access

Incorrect!

The correct answer is: **Increased memory consumption**.

6).Can a vector hold elements of different data types?

1) Yes, by using void pointers
2) No
3) Yes, by using a template
4) None of the above

Your selected answer: No

Correct!

7).What is the time complexity of accessing an element in a vector?

1) O(1)
2) O(n)
3) O(log n)
4) O(n^2)

Your selected answer: O(n)

Incorrect!

The correct answer is: **O(1)**.

8).How do you remove the last element from a vector?

1) pop_back()
2) erase()
3) remove()
4) delete()

Your selected answer: erase()

Incorrect!

The correct answer is: **pop_back()**.

9).Which operation is NOT supported by a vector?

1) Accessing elements by index
2) Inserting elements in the middle
3) Random access to elements

4) None of the above

Your selected answer: Random access to elements

Incorrect!

The correct answer is: **Inserting elements in the middle**.

10).What is the capacity of a vector?

1) The number of elements it can currently hold

2) The maximum number of elements it can ever hold

3) The amount of memory allocated for the vector

4) None of the above

Your selected answer: The maximum number of elements it can ever hold

Incorrect!

The correct answer is: **The amount of memory allocated for the vector**.

Edit this page

Concurrency and Synchronization

1).What is concurrency in C++?

1) Executing multiple tasks in parallel
2) Executing multiple tasks without overlap
3) Executing tasks in a sequential order
4) None of the above

Your selected answer: Executing tasks in a sequential order

Incorrect!

The correct answer is: **Executing multiple tasks in parallel**.

2).Which of the following is used for synchronizing threads in C++?

1) std::mutex
2) std::thread
3) std::async
4) std::condition_variable

Your selected answer: std::mutex

Correct!

3).What does 'std::mutex' do in C++?

1) It provides mutual exclusion to avoid race conditions
2) It allows for asynchronous execution
3) It blocks threads from execution
4) None of the above

Your selected answer: It provides mutual exclusion to avoid race conditions

Correct!

4).Which function is used to lock a mutex in C++?

1) lock()
2) unlock()
3) try_lock()
4) None of the above

Your selected answer: unlock()

Incorrect!

The correct answer is: **lock()**.

5).What is 'std::condition_variable' used for?

1) For synchronizing threads and notifying one thread to proceed
2) To pause a thread
3) For avoiding race conditions
4) None of the above
Your selected answer: None of the above
Incorrect!
The correct answer is: **For synchronizing threads and notifying one thread to proceed**.

6).What happens if a thread tries to lock an already locked mutex?

1) The thread waits until the mutex is unlocked
2) The thread proceeds without waiting
3) The thread throws an exception
4) None of the above
Your selected answer: The thread proceeds without waiting
Incorrect!
The correct answer is: **The thread waits until the mutex is unlocked**.

7).What is a deadlock in multi-threading?

1) When threads are waiting for each other to release resources
2) When a thread is not executing
3) When threads execute in a single sequence
4) None of the above
Your selected answer: When a thread is not executing
Incorrect!
The correct answer is: **When threads are waiting for each other to release resources**.

8).Which of the following can prevent deadlocks in C++?

1) Using timeouts for locks
2) Avoiding circular wait
3) Using mutexes in the same order
4) All of the above
Your selected answer: Avoiding circular wait
Incorrect!
The correct answer is: **All of the above**.

9).What is a semaphore used for?

1) To control access to shared resources
2) To monitor thread execution time

3) To synchronize thread priorities

4) None of the above

Your selected answer: To synchronize thread priorities

Incorrect!

The correct answer is: **To control access to shared resources**.

10).What is 'std::lock_guard' in C++?

1) A class that automatically locks and unlocks a mutex

2) A function that locks multiple mutexes

3) A method to lock a mutex manually

4) None of the above

Your selected answer: A function that locks multiple mutexes

Incorrect!

The correct answer is: **A class that automatically locks and unlocks a mutex**.

. What is the output of the following code snippet?

```
for(int i=0; i< i++){
        System.out.println(i);
    }
```

A. 0 1 2 3 4

B. 1 2 3 4 5

C. 1 2 3 4

D. 0 1 2 3 4 5

Check Answer

Wrong! The correct answer is A. The output of the code snippet will be 0 1 2 3 4. The loop starts with `i=0` and continues as long as `i<5`. In each iteration, the value of `i` is printed and then incremented by 1.

Q. How many times will the following do-while loop execute?

```
int i = 1;
do {
    System.out.println(i);
    i++;
} while(i <= 5);
```

A. 4

B. 5

C. 6

D. It will run indefinitely

Check Answer

Wrong! The correct answer is B. The do-while loop will execute 5 times. The condition `i <= 5` is checked after each iteration, so the loop will run until `i` becomes greater than 5.

Q. What is the output of the following code snippet?

```
int sum = 0;
for(int i=1; i<=10; i+=2){
    sum += i;
}
System.out.println(sum);
```

○A. 45

○B. 25

○C. 30

○D. 55

Check Answer

Wrong! The correct answer is A. The output of the code snippet will be 45. The loop starts with `i=1` and adds the value of `i` to `sum` in each iteration. Since `i` is incremented by 2 in each iteration, the loop will only consider odd numbers between 1 and 10.

Q. What is the output of the following code snippet?

```
int i = 10;
while(i >= 0){
    System.out.println(i);
    i -= 2;
}
```


○A. 10 8 6 4 2 0

○B. 10 9 8 7 6 5 4 3 2 1 0

○C. 0 2 4 6 8 10

○D. 0 1 2 3 4 5 6 7 8 9 10

Check Answer

Wrong! The correct answer is A. The output of the code snippet will be 10 8 6 4 2 0. The loop starts with `i=10` and continues as long as `i >= 0`. In each iteration, the value of `i` is printed and then decremented by 2.

Q. What is the output of the following code snippet?

```
for(int i=0; i<5; i++){
    System.out.println(i);
    if(i == 2){
        break;
    }
}
```

○A. 0 1 2 3 4

○B. 0 1 3 4

○C. 0 1 2

○D. It will result in a compile-time error

Check Answer

Correct answer. The output of the code snippet will be 0 1 2. The loop starts with `i=0` and continues as long as `i<5`. In each iteration, the value of `i` is printed. When `i` becomes 2, the `break` statement is encountered, which terminates the loop prematurely.

Q. What is the output of the following code snippet?

```
int i = 0;
do {
    System.out.println(i);
    if(i == 2){
        continue;
    }
    i++;
} while(i <= 5);
```

○A. 0 1 2 3 4 5

○B. 0 1 3 4 5

○C. 0 1 2 3 4

○D. It will result in a compile-time error

Check Answer

Wrong! The correct answer is D. The code snippet will result in a compile-time error.
The `i++` statement is unreachable after the `continue` statement, which causes a compile-time error. This is because the `continue` statement restarts the loop without executing any of the following statements in that iteration.

Q. What is the output of the following code snippet?

```
int i = 0;
while(i < 5){
    i++;
    if(i == 2){
        continue;
    }
    System.out.println(i);
}
```

○A. 1 2 3 4 5

○B. 1 3 4 5

○C. 1 2 3 4

○D. It will result in an infinite loop

Check Answer

Wrong! The correct answer is C. The output of the code snippet will be 1 2 3 4. The loop starts with `i=0` and continues as long as `i<5`. The `i++` statement increments `i` before executing the following statements. When `i` becomes 2, the `continue` statement is encountered, which skips the `System.out.println(i)` statement. Hence, the number 2 is not printed.

Q. What is the output of the following code snippet?

```
int i = 0;
do {
    i++;
    if(i == 2){
        break;
    }
    System.out.println(i);
} while(i < 5);
```

○A. 1 2 3 4 5

○B. 1 3 4 5

○C. 1 2 3 4

○D. It will result in an infinite loop

Check Answer

Wrong! The correct answer is C. The output of the code snippet will be 1 2 3 4. The loop starts with `i=0` and continues as long as `i < 5`. The `i++` statement increments `i` before executing the following statements. When `i` becomes 2, the `break` statement is encountered, which terminates the loop.

Q. Which loop is ideal for situations where the number of iterations is known beforehand?

○A. for loop

○B. while loop

○C. do-while loop

○D. It depends on the specific situation

Check Answer

Wrong! The correct answer is A. The for loop is ideal for situations where the number of iterations is known beforehand. The initialization, condition, and increment statements are all included in the header of the loop, making it more concise and readable when the number of iterations is fixed.

Q. What is the purpose of the break statement in a loop?

○A. To skip the current iteration and proceed to the next one

○B. To terminate the loop prematurely

○C. To repeat the current iteration from the beginning

○D. It depends on the specific situation

Check Answer

Correct answer. The break statement is used to terminate the loop prematurely. When a break statement is encountered, the program control immediately exits the loop and continues with the next statement after the loop.

Q. Which of the following code snippets correctly demonstrates the use of a for loop in Java?

○A.

```
for (int i = 0; i < 10; i++) {
    System.out.println(i);
}
```

○B.

```
int i = 0;
while (i < 10) {
    System.out.println(i);
    i++;
}
```

○C.

```
int i = 10;
do {
    System.out.println(i);
    i--;
} while (i >= 0);
```

○D.

```
int i = 0;
while (true) {
```

```
    if (i >= 10) {
        break;
    }
    System.out.println(i);
    i++;
}
```

Check Answer

Wrong! The correct answer is A. Option A demonstrates the correct usage of a for loop in Java. The loop will iterate from 0 to 9 (inclusive), printing each value of i. It is a commonly used loop construct in Java.

Q. Which of the following code snippets demonstrates an infinite loop in Java?

○A.

```
int i = 0;
while (i < 10) {
    System.out.println(i);
}
```

○B.

```
int i = 0;
do {
    System.out.println(i);
} while (i < 10);
```

○C.

```
for (int i = 0; i < 10; i++) {
    System.out.println(i);
    i--;
}
```

○D.

```
while (true) {
    System.out.println("Infinite loop");
}
```

Check Answer

Wrong! The correct answer is D. Option D demonstrates an infinite loop in Java. The loop condition is set to true, which means the loop will continue executing indefinitely. This can be useful in certain scenarios, but caution must be taken to avoid unintended infinite loops.

Q. Which of the following code snippets demonstrates the correct syntax for a do-while loop in Java?

○A.

```
int i = 0;
do {
    System.out.println(i);
    i++;
} while (i < 10)
```

○B.

```
int i = 0;
do {
    System.out.println(i);
    i++;
} while (i < 10);
```

○C.

```
do (int i = 0; i < 10; i++) {
    System.out.println(i);
} while (i < 10);
```

○D.

```
int i = 0;
do {
    System.out.println(i);
    i++;
}
while(i < 10);
```

Check Answer

Correct answer. Option B demonstrates the correct syntax for a do-while loop in Java. The do keyword is followed by a code block, and the while keyword is followed by the loop condition.

The loop will continue executing as long as the condition is true.

Q. Which of the following code snippets demonstrates the correct usage of a while loop in Java?

○A.

```
int i = 0;
while (i < 10) {
    System.out.println(i);
    i++;
}
```

○B.

```
int i = 0;
while (i < 10) {
    System.out.println(i);
}
```

○C.

```
for (int i = 0; i < 10; i++) {
    System.out.println(i);
}
```

○D.

```
int i = 0;
while (true) {
    System.out.println(i);
    i++;
    if (i >= 10) {
        break;
    }
}
```


Check Answer

Wrong! The correct answer is A. Option A demonstrates the correct usage of a while loop in Java. The loop will execute as long as the condition (i < 10) is true. It will print the value of i and increment it by 1 in each iteration.

Q. Which of the following code snippets demonstrates the correct usage of a nested for loop in Java?

○A.

```
int rows = 5;
int columns = 5;
for (int i = 0; i < rows; i++) {
```

```
    for (int j = 0; j < columns; j++) {
        System.out.print("* ");
    }
    System.out.println();
}
```

B.

```
int rows = 5;
int columns = 5;
for (int i = 0; i < rows; i++) {
    for (int j = 0; j < i; j++) {
        System.out.print("* ");
    }
    System.out.println();
}
```

C.

```
int rows = 5;
int columns = 5;
for (int i = 0; i < rows; i++) {
    for (int j = 0; j < columns; j++) {
        if (i == j) {
            System.out.print("* ");
        }
    }
    System.out.println();
}
```

D.

```
int rows = 5;
int columns = 5;
for (int i = rows; i >= 0; i--) {
    for (int j = columns; j >= 0; j--) {
        if (i >= j) {
            System.out.print("* ");
        }
    }
    System.out.println();
}
```


Check Answer

Wrong! The correct answer is A. Option A demonstrates the correct usage of a nested for loop in Java. It will print a square pattern of asterisks (rows x columns). The outer for loop handles the rows, while the inner for loop handles the columns.

Q. Which of the following code snippets demonstrates the correct usage of a break statement in a loop?

A.

```
for (int i = 0; i < 10; i++) {
    if (i == 5) {
        break;
    }
    System.out.println(i);
}
```

○B.

```
for (int i = 0; i < 10; i++) {
    System.out.println(i);
    if (i == 5) {
        break;
    }
}
```

○C.

```
int i = 0;
while (i < 10) {
    if (i == 5) {
        break;
    }
    System.out.println(i);
    i++;
}
```

○D.

```
int i = 0;
do {
    System.out.println(i);
    if (i == 5) {
        break;
    }
    i++;
} while (i < 10);
```

Check Answer

Wrong! The correct answer is A. Option A demonstrates the correct usage of a break statement in a loop in Java. The break statement is used to terminate the loop when i equals 5. It will print the values of i from 0 to 4, and then terminate the loop.

Q. Which of the following code snippets demonstrates the correct usage of a continue statement in a loop?

○A.

```
for (int i = 0; i < 10; i++) {
    if (i == 5) {
        continue;
    }
```

```
    System.out.println(i);
}
```

○B.

```
for (int i = 0; i < 10; i++) {
    System.out.println(i);
    if (i == 5) {
        continue;
    }
}
```

○C.

```
int i = 0;
while (i < 10) {
    i++;
    if (i == 5) {
        continue;
    }
    System.out.println(i);
}
```

○D.

```
int i = 0;
do {
    i++;
    if (i == 5) {
        continue;
    }
    System.out.println(i);
} while (i < 10);
```

Check Answer

Wrong! The correct answer is A. Option A demonstrates the correct usage of a continue statement in a loop in Java. The continue statement is used to skip the remaining code in the loop body when i equals 5. It will print the values of i from 0 to 9, excluding 5.

Q. Which of the following code snippets demonstrates the correct usage of a nested while loop in Java?

○A.

```
int i = 0;
int j = 0;
while (i < 10) {
    while (j < 5) {
        System.out.println(i + " " + j);
        j++;
    }
    i++;
}
```

○B.

```
int i = 0;
while (i < 10) {
    int j = 0;
    while (j < 5) {
        System.out.println(i + " " + j);
        j++;
    }
    i++;
}
```

○C.

```
int i = 0;
int j = 0;
while (i < 10) {
    while (j < 5) {
        System.out.println(i + " " + j);
        i++;
    }
    j++;
}
```

○D.

```
int i = 0;
int j = 0;
while (i < 10) {
    while (j < 5) {
        System.out.println(i + " " + j);
        j++;
    }
    i++;
}
```

Check Answer

Correct answer. Option B demonstrates the correct usage of a nested while loop in Java. The outer while loop handles the variable i, while the inner while loop handles the variable j. It will print the combined values of i and j in each iteration.

Q. Which of the following code snippets demonstrates the correct usage of a for-each loop in Java?

○A.

```
int[] numbers = {1, 2, 3, 4, 5};
for (int i = 0; i < numbers.length; i++) {
    System.out.println(numbers[i]);
}
```

○B.

```
int[] numbers = {1, 2, 3, 4, 5};
for (int number : numbers) {
    System.out.println(number);
}
```

○C.

```
List<Integer> numbers = Arrays.asList(1, 2, 3, 4, 5);
for (int i = 0; i < numbers.size(); i++) {
    System.out.println(numbers.get(i));
}
```

○D.

```
List<Integer> numbers = Arrays.asList(1, 2, 3, 4, 5);
for (Integer number : numbers) {
    System.out.println(number);
}
```

Check Answer

Wrong! The correct answer is B. Option B demonstrates the correct usage of a for-each loop in Java. The for-each loop syntax is used to iterate over an array or a collection without the need for an index variable. It simplifies the code and makes it more readable.

Q. Which of the following code snippets demonstrates the correct usage of a nested do-while loop in Java?

○A.

```
int i = 0;
do {
    int j = 0;
    do {
        System.out.println(i + " " + j);
        j++;
    } while (j < 5);
    i++;
} while (i < 10);
```

○B.

```
int i = 0;
do {
    int j = 0;
    do {
        System.out.println(j);
        j++;
    } while (j < 5);
    i++;
} while (i < 10);
```

○C.

```
int i = 0;
int j = 0;
do {
    do {
        System.out.println(j);
        j++;
    } while (j < 5);
    i++;
} while (i < 10);
```

○D.

```
int i = 0;
int j = 0;
do {
    do {
        System.out.println(i + " " + j);
        j++;
    } while (j < 5);
    i++;
} while (i < 10);
```

Check Answer

Wrong! The correct answer is A. Option A demonstrates the correct usage of a nested do-while loop in Java. The outer do-while loop handles the variable i, while the inner do-while loop handles the variable j. It will print the combined values of i and j in each iteration.

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+91 8007592194 +91 9284926333

codewitharrays@gmail.com

https://codewitharrays.in/project