**C-Programming**

**1. Question: What is the correct syntax to declare a variable in C?**

* A) **variable int x;**
* B) **int x;**
* C) **x = int;**
* D) **declare x as int;**

**2. Question: What is the purpose of the sizeof operator in C?**

* A) Calculate the size of a data type
* B) Find the square root of a number
* C) Concatenate strings
* D) Increment a variable

**3. Question: Which keyword is used to define a constant in C?**

* A) **const**
* B) **constant**
* C) **final**
* D) **var**

**4. Question: What is the purpose of the break statement in C?**

* A) Exit the program
* B) Terminate a loop or switch statement
* C) Skip the current iteration of a loop
* D) Print a message to the console

**5. Question: What does the %d format specifier represent in printf for integers?**

* A) Double
* B) Decimal
* C) String
* D) Character

**6. Question: How do you allocate dynamic memory in C?**

* A) **new**
* B) **malloc**
* C) **allocate**
* D) **dynamic**

**7. Question: What is the purpose of the void keyword in a function declaration?**

* A) Indicate that the function returns nothing
* B) Specify the data type of the return value
* C) Declare a variable
* D) Enable recursive function calls

**8. Question: How do you include a header file in C?**

* A) **include "header.h"**
* B) **#header "header.h"**
* C) **#include <header.h>**
* D) **use header.h**

**9. Question: What is the result of the expression 5 / 2 in C?**

* A) **2.5**
* B) **2**
* C) **2.0**
* D) **2.25**

**10. Question: Which operator is used for pointer access in C?**

A) **->** - B) **.** - C) **\*** - D) **&**

**C++**

**1. Question: What is the correct syntax to declare a class in C++?**

* A) **class MyClass;**
* B) **declare class MyClass;**
* C) **new class MyClass()**
* D) **define class MyClass {}**

**2. Question: Which of the following is not a fundamental data type in C++?**

* A) **int**
* B) **float**
* C) **string**
* D) **char**

**3. Question: What is the purpose of the this pointer in C++?**

* A) Points to the next memory location
* B) Points to the current object
* C) Refers to the previous function
* D) Points to a static variable

**4. Question: How do you achieve function overloading in C++?**

* A) By using the **override** keyword
* B) By using the **overload** keyword
* C) By defining multiple functions with the same name but different parameters
* D) By declaring a function as **overloaded**

**5. Question: What is the purpose of the virtual keyword in C++?**

* A) Declare a variable as virtual
* B) Enable runtime polymorphism
* C) Specify a constant value
* D) Disable inheritance

**JAVA**

**1. Question: What is the main purpose of the static keyword in Java?**

* A) Indicate that a variable is constant
* B) Define a class variable or method
* C) Allocate memory dynamically
* D) Enable multithreading

**2. Question: Which keyword is used to create a new instance of a class in Java?**

* A) **new**
* B) **create**
* C) **instance**
* D) **alloc**

**3. Question: What is the default value of an instance variable in Java if it is not explicitly initialized?**

* A) 0
* B) 1
* C) Null
* D) Undefined

**4. Question: What is the purpose of the final keyword in Java?**

* A) Indicate the end of a program
* B) Mark a variable as constant
* C) Specify the entry point of a program
* D) Enable polymorphism

**5. Question: Which method is called automatically when an object is created in Java?**

* A) **start()**
* B) **initialize()**
* C) **construct()**
* D) **constructor()**

**6. Question: What is the purpose of the super keyword in Java?**

* A) Call the superclass constructor
* B) Reference the current object
* C) Enable multiple inheritance
* D) Override a method in the superclass

**7. Question: What is the Java Virtual Machine (JVM)?**

* A) A virtual reality simulation engine
* B) A compiler for Java programs
* C) An interpreter for Java bytecode
* D) A hardware device for Java execution

**8. Question: What is the difference between == and .equals() when comparing objects in Java?**

* A) They are identical in functionality
* B) **==** compares object references, while **.equals()** compares object content
* C) **.equals()** compares object references, while **==** compares object content
* D) Both are used for numerical comparison

**9. Question: Which keyword is used to implement multiple inheritances in Java?**

* A) **multi**
* B) **inherits**
* C) **extends**
* D) Java does not support multiple inheritance

**10. Question: What is the purpose of the throws clause in a method declaration in Java?**

A) Indicate that the method is throwing an exception

B) Declare the return type of the method

C) Define the access modifier of the method

D) Specify the number of parameters the method accepts

**PYTHON**

1. **Question:** What is the output of the following code?

pythonCopy code

x = 5 y = 2 result = x / y

a) 2.5  
b) 2  
c) 2.0  
d) 2.5 with a remainder

1. **Question:** What will the following code output?

pythonCopy code

my\_list = [1, 2, 3, 4, 5] print(my\_list[1:3])

a) [1, 2]  
b) [2, 3]  
c) [1, 3]  
d) [2, 4]

1. **Question:** Which of the following is a valid way to open a file in binary mode?

a) **file = open("example.txt", "rb")**  
b) **file = open("example.txt", "r")**  
c) **file = open("example.txt", "wb")**  
d) **file = open("example.txt", "w")**

1. **Question:** What is the output of the following code?

pythonCopy code

x = True y = False print(not x or y)

a) True  
b) False  
c) Error  
d) None

1. **Question:** Which of the following is used to remove the last element from a list?

a) **pop()**  
b) **remove()**  
c) **delete()**  
d) **del()**

1. **Question:** What does the **pass** statement do in Python?

a) Terminates the program  
b) Skips the current block of code  
c) Raises an exception  
d) None of the above

1. **Question:** Which of the following is used to concatenate two lists?

a) **merge()**  
b) **concat()**  
c) **extend()**  
d) **+**

1. **Question:** In Python, what does the **\_\_init\_\_** method do in a class?

a) Initializes the class  
b) Initializes the object  
c) Initializes the attributes of the object  
d) Initializes the constructor

1. **Question:** Which of the following is the correct syntax for a list comprehension?

a) **[x for x in range(10) if x % 2 == 0]**  
b) **{x for x in range(10) if x % 2 == 0}**  
c) **(x for x in range(10) if x % 2 == 0)**  
d) **<x for x in range(10) if x % 2 == 0>**

1. **Question:** What does the **random.choice()** function do in Python?

a) Generates a random number  
b) Selects a random element from a list  
c) Chooses a random character from a string  
d) None of the above