How does “void *” differ in C and C++?

Write a program that produces different results in C and C++

Type difference of character literals in C and C++

int (1 sign bit + 31 data bits) keyword in C

Program error signals

Why array index starts from zero ?

TCP Server-Client implementation in C

- How to return multiple values from a function in C or C++?
- Dynamic Memory Allocation in C using malloc(), calloc(), free() and realloc()
- Commonly Asked C Programming Interview Questions | Set 3
- Applications of Pointers in C/C++
- Pre-increment and Post-increment in C/C++
- Sum of array Elements without using loops and recursion
- “static const”

vs “#define”
vs “enum”

Comments
in C/C++

How will you
print
numbers
from 1 to
100 without
using loop? |
Set-2

How to find
Segmentation
Error in C &
C++ ? (Using
GDB)

Why strcpy
and strncpy
are not safe
to use?

time()
function in C

Loader in
C/C++

GDB (Step by
Step
Introduction)

Communication
between two
process
using signals
in C

tolower()

function in C

Passing Reference to a Pointer in C++

Difference between const int*, const int * const, and int const *

How to avoid Structure Padding in C?

How does a C program executes?

Difference between Call by Value and Call by Reference

strrev() function in C

Difference between fundamental data types and derived data types

Difference between C structures and C++ structures

In C++, struct and class are exactly the same things, except for that struct defaults to public visibility and class defaults to private visibility.

Some important differences between the C and C++ structures:

1. **Member functions inside structure**: Structures in C cannot have member functions inside structure but Structures in C++ can have member functions along with data members.
2. **Direct Initialization:** We cannot directly initialize structure data members in C but we can do it in C++.

C

```c
// C program to demonstrate that direct
// member initialization is not possible in C
#include <stdio.h>

struct Record {
    int x = 7;
};

// Driver Program
int main()
{
    struct Record s;
    printf("%d", s.x);
    return 0;
}
/* Output :  Compiler Error
   6:8: error: expected ':', ', ', ';', '}' or
  '__attribute__' before '=' token
  int x = 7;
        ^
  In function 'main': */
```

C++

```cpp
// CPP program to initialize data member in c++
#include <iostream>
using namespace std;

struct Record {
    int x = 7;
};

// Driver Program
int main()
{
    Record s;
    cout << s.x << endl;
    return 0;
}
// Output
// 7
```

Output:

```
7
```

3. **Using struct keyword:** In C, we need to use struct to declare a struct variable. In C++, struct is not necessary. For example, let there be a structure for Record. In C, we must use “struct Record” for Record variables. In C++, we need not use struct and using ‘Record‘ only would work.
4. **Static Members:** C structures cannot have static members but is allowed in C++.

C

```c
// C program with structure static member
struct Record {
    static int x;
};

// Driver program
int main()
{
    return 0;
}
/* 6:5: error: expected specifier-qualifier-list
   before 'static'
     static int x;
     ^*/
```

C++

```cpp
// C++ program with structure static member
struct Record {
    static int x;
};

// Driver program
int main()
{
    return 0;
}
```

This will generate an error in C but no error in C++.

5. **Constructor creation in structure**: Structures in C cannot have constructor inside structure but Structures in C++ can have Constructor creation.

C

```c
// C program to demonstrate that Constructor is not allowed
#include <stdio.h>

struct Student {
    int roll;
    Student(int x)
    {
        roll = x;
    }
};

// Driver Program
int main()
{
    struct Student s(2);
    printf("%d", s.x);
    return 0;
}
/* Output :  Compiler Error
   [Error] expected specifier-qualifier-list
    before 'Student'
   [Error] expected declaration specifiers or
   '...' before numeric constant
   [Error] 's' undeclared (first use
   5555555555in this function)
   In function 'main': */
```

C++

```cpp
// CPP program to initialize data member in c++
#include <iostream>
using namespace std;

struct Student {
    int roll;
    Student(int x)
    {
        roll = x;
    }
};

// Driver Program
int main()
{
    struct Student s(2);
    cout << s.roll;
    return 0;
}
// Output
// 2
```

Output:

```
2
```

6. **sizeof operator:** This operator will generate **0** for an empty structure in C whereas **1** for an empty structure in C++.

```c
// C program to illustrate empty structure
#include <stdio.h>

// empty structure
struct Record {
};

// Driver program
int main()
{
    struct Record s;
    printf("%d\n", sizeof(s));
    return 0;
}
```

Output in C:

```
0
```

Output in C++:

```
1
```

7. **Data Hiding:** C structures do not allow concept of Data hiding but is permitted in C++ as C++ is an object oriented language whereas C is not.
8. **Access Modifiers:** C structures do not have access modifiers as these modifiers are not supported by the language. C++ structures can have this concept as it is inbuilt in the language.

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2.2

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