What is the 8-bit chain of -126 using two's complement?

The 8-bit chain of -126 using two's complement is 1000010

Làm lại Hiện đáp án

Your score is 1/1.

Converse 126 into binary form: 01111110 (make sure that there are 8 bits)

Converse it into one's complement: 10000001 (0->1 and 1->0)

Converse it into two's complement 10000010 (plus 1, keep 8 bits)

Based on IEEE-754, write the sequence of bits in the single precision of the number -25.45?

The sign bit is 1

The sequence of bits of integral part (25) is 11001 (5 bits)

The sequence of bits of fractional part (.45) is 01110011001100110011001 (23bits)

The binary form of the above number is 11001.01110011001100110011001

The standardized binary form of the above number is 1.10010111001100110011001 * 2 ^ 4

The sequence of bits of the exponent part is 10000011 (8 bits)

The sequence of bits of the above number is 11000001110010111001100110011001 (32 bits)

Given the following array declaration in C:

int x[10];

Assume that the size of an int object is 4, and the starting address of the variable x is 1000, what is the address of element x[5]?

The address of element x[5] is 1020

Làm lại Hiện đáp án

Your score is 1/1.

The address of element x[5] is 1000 + ((5-0)* 4) where 0 is the lower bound, 4 is the size of an element.

Given the following array declaration:

int x[5][7]; //the lower bound is 0

Assume that the size of an int element is 4, the elements of the array are allocated in row-major order and the starting address of the array is 1000, what is the address of the element x[3][4]?

The address of the element x[3][4] is 1100

Làm lại Hiện đáp án

Your score is 1/1.

The address of the element x[3][4] is 1000 + (((3 - 0) * 7) + (4 - 0)) * 4 = 1000 + 100

Given the following array declaration:

int x[4][6][5]; // the lower bound is 0

Assume that the size of. an int element is 4, the elements of an array are allocated in row-major order, and the starting address of the variable x is 1000, what is the address of the element x[2][4][3]?

the address of the element x[2][4][3] is 1252

Làm lại Hiện đáp án

Your score is 0/1.

the address of the element x[2][4][3] is 1000 + (((((2 - 0) * 6) + (4 - 0)) * 5) + 3) * 4 = 1332

Given the following struct declarations in C:

```
struct A {
   int a;
   double b;
   float c;
};
struct B {
   double a;
   float b;
  int c;
};
```

Assume that the size of int, float and double are 4, 4, and 8, respectively. What are the size of struct A and B?

The size of struct A is 24

The size of struct B is 16

Làm lại Hiện đáp án

Your score is 2/2.

There are a 4-byte padding between a and b and another 4-byte padding after c in struct A so the size of struct A is 24. There is no padding in struct B so the size of struct B is 16. Note that two structs have the same number of fields but just different in the order of these field.

Given the following record declaration in Ada:

```
type Shape is (Circle, Triangle, Rectangle);
type Colors is (Red, Green, Blue);
type Figure (Form: Shape) is record
 Filled: Boolean;
 Color: Colors;
case Form is
  when Circle => Diameter: Float;
  when Triangle =>
    Leftside, Rightside: Integer;
    Angle: Float;
  when Rectangle => Side1, Side2: Integer;
 end case;
end record;
```

Assume that the size of Boolean, enumeration, Integer, and Float are 1, 2, 2 and 4, respectively. What is the size of an object in type Figure without padding?

The size of an object in type Figure without padding is 13

The size of Form is 2 (enumerate)

The size of Filled is 1 (Boolean)

The size of Color is 2 (enumeration)

The size of union is the max size of its components => 8 (Leftsize (2), Rightsize (2) and Angle (4))

The total is 13.

Given the following code fragment in a programming language using fixed-length string:

```
x: string[6];
y: string[6];
x = "You";
y = "are";
print(x + y); //+ is string concatenation operator
```

What is the result of the print statement?

The result of the print statement is " You are "

Làm lại Hiện đáp án

Your score is 1/1.

When x is assigned the value "You", it is also appended 3 more spaces to make its size 6 so x keeps "You ". Similarly, y keeps "are ".

Given the following declaration of a set:

x: set of 10..73;

Assume that an object in set type is implemented by a bit chain, what is the size of x in byte?

The size of x is 8 bytes

Làm lại | Hiện đáp án

Your score is 1/1.

There are 64 values from 10 to 73 so an object in this type needs 64 bits = 8 bytes.

Which type requires the initialization must be performed when a variable is declared in this type?

- Array
- Struct
- Pointer
- Reference

Correct

Given the following declaration:

```
x: array [1..10] of record
    a: array [5..10] of integer;
    b: record
        c: real;
        d: array[1..3] of real;
  end;
end;
```

Use type expression to write the type of x? Note that use * for product.

The type expression to express the type of x is
array(1..10,record((a*array(5..10,integer)*(b*record((c*real)*(d*array(1..3,real)))))))

Given the code fragment as follows:

def foo(x,f) = f(f(x))

What is the type of function foo? Note that if a variable type is used, its name is T.

The type of function foo is (T1*(T1->T1)) -> T1