

Coding Convention Guidelines

	Rule	Should	Should not
Naming Convention	Rule #1.0: Use meaningful names	int price, tax, total; void sum();	int x, y, z; void f();
	Rule #1.1: Use Camel Case for variable, struct, function names	float grade, TotalPriceWithTax; struct SalePerson { };	float GRADE, totalpricewithtax; struct SALEPERSON { };
	Rule #1.2: Use All Upper Case with underscores for constant names	const int TAX_RATE = 10.0;	const int TaxRate = 10.0;
Statement Convention	Rule #2.0: Write easy-to-read statements	x = a + b - c * d; for (int i = 0; i < n; i++);	x=a+b-c*d; for(int i=0;i<n;i++);
	Rule #2.1: Write one statement on one line	int a; float b; if (a > 10) b = 5;	int a; float b; if (a > 10) b = 5;
	Rule #2.2: Group related statements in paragraph	a = 5; b = 6; if (a > b) max = a;	a = 5; b = 6; if (a > b) max = a;
	Rule #2.3: Indent statement blocks	if (a[j] > a[i]) { int temp = a[i]; a[i] = a[j]; a[j] = temp; }	if (a[j] > a[i]) { int temp = a[i]; a[i] = a[j]; a[j] = temp; }
	Rule #2.4: Split long function (> 10 statements) into smaller ones		
Comment Convention	Rule #3.0: Explain code with comprehensive comments		
	Rule #3.1: Explain each function with comments	// This function sum up // two input integers int sum(int a, int b) { }	int sum(int a, int b) { }
	Rule #3.2: Comment to complex if/loops/expressions when possible	// Find max between a and b max = (a > b) ? a : b; // Calculate x^n for (int i = 0; i < n; i++) s = s * x;	max = (a > b) ? a : b; for (int i = 0; i < n; i++) s = s * x;

Practice

Find and correct what do not follow the Coding Convention Guidelines in the code below:

```
01: #include <stdio.h>
02: #define MAX_ARRAY_SIZE 100
03:
04: void readArray(int arr[], int &size)
05: {
06:     printf("Enter number of elements = ");
07:     scanf("%d", &size);
08:
09:     for (int i = 0; i < size; i++)
10:     {
11:         printf("Enter element [%d] = ", i);
12:         scanf("%d", &a[i]);
13:     }
21: }

    void sortArray(int arr[], int size)
    {
        for(int i = 0; i < size - 1; i++)
14:         for(int j = i + 1; j < size; j++)
15:             if (a[j] < a[i])
16:             {
17:                 int temp = a[i];
18:                 a[i] = a[j];
19:                 a[j] = temp;
20:             }
    }

22:
23: void printArray(int arr[], int size)
24: {
25:     printf("Elements of array:\n");
26:
    for(int i = 0; i < size; i++)
        printf("%d ", a[i]);
27: }
28: void main()
29: {
30:     int arr[MAX_ARRAY_SIZE]; int size;
31:     readArray(arr, size);
```

```
        sortArray(arr, size);  
32:    printArray(arr, size);  
33: }
```