Course Coding Conventions

	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 struct, class	struct SalePerson;	struct SALEPERSON;
	Rule #1.2: Use Camel Case or Snake Case for variables, functions.	float totalPrice, digit_count;	float totalprice, digitcount;
	Rule #1.3: Use All Capitalized with underscores for constants.	const double TAX_RATE = 10.0;	const double 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: Use indent for 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 (> 30 statements) into smaller ones		
Comment Convention	Rule #3.0: Write comments to explain code		

	Rule #3.1: Explain complex function meaning/input/output	// This function sum up
		// two input integers
		int sum(int a, int b) { }
			int sum(int a, int b) { }

	Rule #3.2: Explain complex expression/if/loop 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 violates the Course Coding Conventions in the code below:

```
01: #include <stdio.h>
02: #define maxarray 100
03:
04: void read_sort_array(int a[], int &n)
05: {
06:   printf("Enter number of elements = ");
07:   scanf("%d", &n);
08:   for (int i = 0; i < n; i++)
09:   {
10:   printf("Enter element [%d] = ", i);
11:   scanf("%d", &a[i]);
12:   }
13:   for(int i = 0;i < n - 1; i++)
14:         for(int j = i + 1; j < n; j++)
15:               if (a[j] < a[i])
16:               {
17:                     int temp = a[i];
18:                     a[i] = a[j];
19:                     a[j] = temp;
20:               }
21: }
22:
23: void f(int a[], int n)
24: {
25:   printf("Elements of array:\n");
26:   for(int i=0;i<n;i++) printf("%d ", a[i]);
27: }
28: void main()
29: {
30: int a[maxarray]; int n;
31: read_sort_array(a, n);
32: f(a, n);
33: }
```