

A “Test Driver” For the Sort Function

```
bool test_sort (list input,
                list expected_output,
                string msg)
    print (msg);
    print_list (input);
    sort (input);
    bool ok = compare (input, expected_output)
    if (ok)
        print ("Test succeeded");
    else
        print ("TEST FAILED, expected:");
        print_list (expected_output);
        print ("actual result:");
        print_list (input);
    end if
    return (ok);
end test_sort
```

A “Test Suite” For the Sort Function

```
bool main()
```

```
    bool success = true;
```

```
    {
```

```
        list input = < >; list expect = < >;
```

```
        string msg = "Empty list";
```

```
        success = test_sort (input, expect, msg)
```

```
            AND success;
```

```
    }
```

```
    {
```

```
        list input = < 1 >; list expect = < 1 >;
```

```
        string msg = "Empty list";
```

```
        success = test_sort (input, expect, msg)
```

```
            AND success;
```

```
    }
```

```
    ...etc...
```

```
    if success
```

```
        print ("All tests passed.");
```

```
    else
```

```
        print ("FAILURE: Errors encountered!");
```

```
    end if
```

```
end main
```

Validating Form of “Test Driver”

```
bool test_sort (list input,  
                string msg)  
    print (msg);  
    print_list (input);  
    list input_copy = make_copy (input);  
    sort (input);  
    bool ok = sorted (input)  
              AND permute (input, input_copy);  
    if (ok)  
        print ("Test succeeded");  
    else  
        print ("TEST FAILED, actual result:");  
        print_list (input);  
    end if  
    return (ok);  
end test_sort
```