

Ch 9 Homework Sample solution

5. Consider the following program written in C syntax:

...

For each of the following parameter-passing methods, what are all of the values of the variables `value` and `list` after each of the three calls to `swap`?

Solution:

a. Passed by value

```
swap1:    value = 2; list[] = {1, 3, 5, 7, 9};
```

```
swap2:    value = 2; list[] = {1, 3, 5, 7, 9};
```

```
swap3:    value = 2; list[] = {1, 3, 5, 7, 9};
```

b. Passed by reference

```
swap1:    value = 1; list[] = {2, 3, 5, 7, 9};
```

```
swap2:    value = 1; list[] = {3, 2, 5, 7, 9};
```

```
swap3:    value = 2; list[] = {3, 1, 5, 7, 9};
```

c. Passed by value-result

```
swap1:    value = 1; list[] = {2, 3, 5, 7, 9};
```

```
swap2:    value = 1; list[] = {3, 2, 5, 7, 9};
```

```
swap3:    value = 2; list[] = {3, 1, 5, 7, 9};
```

7. Consider the following program written in C syntax:

...

For each of the following parameter-passing methods, what are the values of the `list` array after execution?

Solution:

a. Passed by value

```
list[] = {1, 3};
```

b. Passed by reference

```
list[] = {2, 6};
```

c. Passed by value-result

```
list[] = {2, 6};
```