

1. What is wrong with the following code, and how would you fix it?

```
void swap(int* a, int* b) {
    int tmp = *a;
    *a = *b;
    *b = tmp;
} // end of swap method
```

2. Suppose you have a function that takes an array as an argument in the usual way, which is declared as:

```
void f(int* array, int length);
```

Suppose you also have an array declared as:

```
int a[128];
```

How would you pass a sub-array containing only the third through sixth elements of `a` to the function `f`?

```
f(a+2,4);
```

3. What is wrong with the following code and how would you fix it?

```
double* allocateArray(int length) {
    double* array = new double[length];
    return array;
}
```

4. What is wrong with the following code, and how would you fix it?

```
char string[6];
string[0] = 'h';
string[1] = 'e';
string[2] = 'l';
string[3] = 'l';
string[4] = 'o';
string[5] = 0;
printf("%s\n", string);
```