

## ANALYSIS ASSIGNMENT #13 – due 24 October at the start of lecture.

1. Consider the following array:

```
int a[] = { 1, 2, 3, 4, 5, 4, 3, 2, 1, 0 };
```

What is the value of the variable `total` after the following loops are executed?

- a. `total = 0;`  
`for ( int i = 0; i < 10; i++ ) { total = total + a[i]; }`
- b. `total = 0;`  
`for ( int i = 0; i < 10; i = i + 2 ) { total = total + a[i]; }`
- c. `total = 0;`  
`for ( int i = 1; i < 10; i *= 2 ) { total = total + a[i]; }`
- d. `total = 0;`  
`for ( int i = 9; i > 0; i-- ) { total = total + a[i]; }`
- e. `total = 0;`  
`for ( int i = 0; i < 10; i += 2 ) { total = total + a[i] - a[i + 1]; }`

2. Consider the following array initialization:

```
int a[] = { 1, 2, 3, 4, 5, 4, 3, 2, 1, 0 };
```

What are the contents of the array after the following loops are executed? Each problem starts with the original array initialization. Please write the values within braces as a comma-separated list.

- a. `for ( int i = 1; i < 10; i++ ) { a[i] = a[i - 1]; }`
- b. `for ( int i = 9; i > 0; i-- ) { a[i] = a[i - 1]; }`
- c. `for ( int i = 0; i < 9; i++ ) { a[i] = a[i + 1]; }`
- d. `for ( int i = 1; i < 10; i++ ) { a[i] += a[i - 1]; }`
- e. `for ( int i = 1; i < 5; i++ ) { a[i] = a[9 - i]; }`