**Tutorial 8 (Part A)**

**Part A – One-dimensional Array**

1. Write C++ code segments that fulfil the following criteria.

(a) Write a declaration of an array variable called temps that holds 24 values of type float.

(b) Write a for loop that fills every element of the temps array declared with the value 32.0.

1. Write the output of the following blocks of code.
2. int b[4] = {4,5,2,1};

for (int i=2; i>=0; i--)

cout << b[i] + b[i+1] << "\n";

1. int a[4];

a[0] = 2;

for (int i = 1; i < 4; i++)

a[i] = i + a[i-1];

for (int i = 0; i < 4; i++)

cout << a[i] << " ";

1. Use **THREE (3)** different ways to declare an 11-element array of characters called arr\_alpha and store in it the alphabets from A to J.
2. (a) Declare a character array called name, which contains the string “Programming**”**.
3. Display the 5th character of name based on Q4 (a) on screen.

(c) Replace the 1st character of name based on Q4 (a) with the letter ‘p’.

1. (a) Declare an array, called **number**, to store 8 integer numbers.

(b) Assign the value 5 to the last element of the array **number** based on Q5 (a).

(c) Write C++ statements display all integers in the array **number** and then display its total and average.

1. (a) Write a declaration for COST, which is an array that can be used to store 10 item cost prices to two decimal places. Initialize COST to 0.00.
   1. Write a C++ program segment to read (from the keyboard) the 10 item cost prices into the array COST.
   2. Write a statement to change the **fourth** item’s price to 8.00.
   3. Assume that the selling prices of the 10 items are stored in an array SELL. Write a C++ program segment that creates an array PROFIT to record the profits for the ten items. Assume that profit equals selling price minus cost price. Display the contents of PROFIT and the index of the highest profit item.
2. Suppose list is an array of five elements of the type int. What is stored in list array after the following C++ codes are executed?

for(i = 0; i < 5; i++) {

list[i] = 2 \* i + 5;

if(i % 2 == 0)

list[i] = list[i] – 3;

}

1. What is the output of the following program segment?

|  |
| --- |
| int x[] = { 27, 43, 19, 8, 31, 60 };  int a = 1;  cout << x[a] + x[4] << endl;  cout << x[a + a] << endl;  x[a - 1] = x[a];  x[a] = x[a + 1];  cout << x[a] << endl;  cout << x[ (x[ (x[5] - 57) ] - 8) ] << endl; |

1. arrNum1 and arrNum2 are two integer type arrays of size 10. Write a program segment to read 10 integer numbers from the user into arrNum1. Multiply each element of arrNum1 with its corresponding index and store the value into the corresponding element of arrNum2.
2. The program code below is supposed to display all the values in the value array.
3. #include <iostream>
4. using namespace std;
5. int main()
6. {
7. int value[9] = {1,2,3,4,5,6,7,8,9,0};
8. int number;
9. for (number = 9; number >=1 ; number --)
10. {
11. cout << value[number] << " ";
12. }
13. return 0;
14. }
    1. Identify the errors in the code. Suggest the corrections to be done.
    2. Assume that the corrections for the above are accurate, what is the output of the program above?