Sohag University
Faculty of Engineering
Electrical Engineering Department

Programming Languages
1st Year

Sheet 7

Arrays

1. Determine whether the following array declarations are valid.
   a. `int a[4] = {0, 4, 3, 2, 7};`
   b. `int b[10] = {0, 7, 3, 12};`
   c. `int c[7] = {12, 13, , 14, 16, , 8};`
   d. `double lengths[] = {12.7, 13.9, 18.75, 20.78};`
   e. `int d[][] = {12, 13, 14, 16, 8, 3};`
   f. `char name[8] = "Samantha";`

2. what is the output of the flowing peace of code :

```
Void fun(int x[], int size) {
      for (int i=0; i<size; i++)
            x[i]++;
}
Void main() {
      int a[] = {5,6,2,3};
      fun(a,4);
      for (int i=0; i<4; i++)
         cout<<a[i]<<endl;
}
```

3. Write a C++ program to add two array each of size=5 .

4. Write a C++ program that perform the following:
   a. ask user to Enter 5 integers and store them in an array.
   b. copy all the elements in another array but in reverse order.

5. Write a C++ function that takes an array and return the average of the array's elements. Also, write a program to test your function.

6. Write a C++ function **max()**, that takes an array and return the largest number in the array. Also, write a program to test your function.

7. Write a C++ function that takes an unsorted array of integers and sort it in ascending order. Also, write a program to test your function.

8. Write a C++ program that perform the following:
   a. ask the user to type 10 float numbers and store them in an array.
   b. Pass the array to a function that returns to the users how many numbers are greater than or equal to 5.5 in the array.

9. Write a C++ function, **getSmallestIndex()**, that takes an array and return the index of the first occurrence of the smallest element in the array. Also, write aprogram to test your function.

10. Write a C++ program that perform that ask the user to enter his name then an character x. and display "exist" if x exist in his name else print "doesn't exist".
    Note : you can use C string built in function "strlen()".