Unit 3 - Week 1

Week 1 Assignment 1

The due date for submitting this assignment has passed. Due on 2020-02-12, 23:59 IST.
As per our records you have not submitted this assignment.

1) Consider the following code segment.

```c++
#include <iostream>
#include <string>
#include <algorithm>
using namespace std;

bool smaller (string s1, string s2) {
    return (s1 < s2);
}

int main() {
    string data[] = {"orange", "apple", "banana", "pineapple"};
    // LINE-1
    for (int i = 0; i < 4; i++)
        cout << data[i] << " ";
    return 0;
}
```

Fill in the blank at LINE-1 with appropriate option/s such that the output is

apple banana orange pineapple

a) sort(data, data+4, compare);
2) Consider the following declaration (where sizeof(int) = 4 bytes).

#include <iostream>
#include <algorithm>
using namespace std;

int main()
{
    int data[] = {1, 2, 3, 4, 5, 6, 7, 8, 9};
    int n = sizeof(data) / sizeof(data[0]);
    int rotL = 3;
    rotate(data, data + rotL, data + n);
    for (int i = 0; i < n; i++)
        cout << data[i] << ', ';
    return 0;
}

What will be the output?

a) 4 5 6 7 8 9 1 2 3
b) 4 5 6 7 8 9
c) 7 8 9 1 2 3 4 5 6
d) 8 9 1 2 3 4 5 6 7

No, the answer is incorrect.
Score: 0
Accepted Answers:

a) 4 5 6 7 8 9 1 2 3

3)
Consider the following code segment.

```cpp
#include <iostream>
#include <vector>
using namespace std;

int main()
{
    vector<int> a;
    for (int i = 1; i <= 5; i++)
        a.push_back(i);

    vector<int> b(3, 0);
    b = a;
    a.resize(2);
    cout << a.size() << " , " << b.size() << endl;

    return 0;
}
```

What will be the output?

- a) 2, 3
- b) 2, 5
- c) 3, 5
- d) Error: vector a can not be resized

No, the answer is incorrect.
Score: 0
Accepted Answers:
- b) 2, 5

4) 2 points
Consider the following code segment.

```cpp
#include <iostream>
#include <string>
using namespace std;

int main(void) {
    string str1 = "C++ ";
    string str2 = "programming";
    string str3 = "\n\n";  //LINE-1
    cout << str3;

    return 0;
}
```

Fill in the blank at LINE-1 with appropriate option/s such that the output is:

C++ programming.

- a) str1 + str2
- b) strcat(str1,str2);
- c) str1.append(str2);
- d) strcpy(strcat(str1,str2),str3);

No, the answer is incorrect.

Score: 0
Accepted Answers:

- a) str1 + str2
- c) str1.append(str2);

5) 2 points
Consider the following code segment:

```cpp
#include <iostream>
using namespace std;

int main() {
    int *p, i;
    int arr[] = {10, 20, 30, 40, 50};

    for(p = &arr[0], i = 0; i < 5; i++)   // loop-1
        cout << p[i] << " ";
    cout << endl;

    for(p = arr + 4; p >= arr; p--)       // loop-2
        cout << arr[p - arr] << " ";

    return 0;
}
```

What will be the output

- a) 10 20 30 40 50
  10 20 30 40 50
- b) 10 20 30 40 50
  50 50 50 50 50
- c) 10 10 10 10 10
  50 40 30 20 10
- d) 10 20 30 40 50
  50 40 30 20 10

No, the answer is incorrect.
Score: 0
Accepted Answers:
- d) 10 20 30 40 50
  50 40 30 20 10

2 points
Consider the following code segment:

```cpp
#include <iostream>
using namespace std;

int main() {
    int a[] = {10, 20, 30, 40, 50};
    int *p[] = {a, a + 1, a + 2, a + 3, a + 4};

    int **q = p;
    **q++;
    cout << *a << " " << **p << " " << **q << endl;

    q = p;
    ***q;
    cout << *a << " " << **p << " " << **q << endl;

    return 0;
}
```

What will be the output?

- a) 10 10 11
  11 11 11
- b) 10 10 20
  20 20 21
- c) 10 10 20
  11 11 11
- d) 11 11 11
  11 11 11

No, the answer is incorrect.
Score: 0
Accepted Answers:
  c) 10 10 20
      11 11 11

7)
Consider the following code

```cpp
#include <iostream>
using namespace std;

int main() {
    int array3D[4][4][4] = {0};
    process(array3D, 4);
    return 0;
}
```

What should be the correct prototype/s of `process()` function?

- a) `void process(int ***array3D, int size);`
- b) `void process(int array3D[][4], int size);`
- c) `void process(int (*array3D)[4][4], int size);`
- d) `void process(int array3D[][4][4], int size);`

No, the answer is incorrect.
Score: 0
Accepted Answers:
- c) `void process(int (*array3D)[4][4], int size);`
- d) `void process(int array3D[][4][4], int size);`
8) Consider the following code segment.

```cpp
#include <iostream>
using namespace std;

union myType{
    char c;
    unsigned int i;
} u;

int main() {
    u.c = 'X';
    u.i = 65;

    cout << u.c << " " << u.i << endl;

    return 0;
}
```

What will be the output?

- a) 65 65
- b) A 65
- c) X 65
- d) (garbage value) 65

No, the answer is incorrect.
Score: 0
Accepted Answers:
- b) A 65