COMP2113 Programming Technologies /

ENGG1340 Computer Programming II

Module 6 Checkpoint Exercise

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Instructions:

For each single question or each group of questions in the Checkpoint exercise, please type your answer right after the question in this Word document.

Checkpoint 6.1 (Please submit your answer to Moodle)

There may be error(s) in the following statements. Correct the error(s) if any, if no error, please write "no error".

a) double a [1] [2] = {{2,3}, {3,2}}; double a[2][2] = {{2,3}, {3,2}};

b) double b [1] [2] = {{3}}; no error

c) char b[1000] = "string"; no error

Checkpoint 6.2 (Please submit your answer to Moodle)

Consider the following code:

```
1  #include <iostream>
2  using namespace std;
3
4  void e(int a[], int b[], int c[], int d)
5  {
6      for (int index = d-1; index >=0; index--)
7      {
8          a[index]=2;
9          b[index]=3;
10         c[index]=4;
11     }
12     for (int i=0; i< d; i++)
13     {
14         cout << a[i] << " ";
15         cout << b[i] << " ";
16         cout << c[i] << " ";
17     }
18 }
19
20 int main()
21 {
22     int a[]={1,2,3};
23     int b[]={3,4,5};
24     int c[]={5,6,7};
25
26     return 0;
27 }
28
```

a) What is the output if the above program is executed? (if no output, plea se write “no output”) no output

b) What is the output if `e(a,b,c,3);` is added to line 25? (if no output, pl ease write “no output”) 2 3 4 2 3 4 2 3 4

c) What is the output if `e(a,b,c,5);` is added to line 25? (if no output, pl ease write “no output”)

*** stack smashing detected ***: terminated

Aborted (core dumped)

Checkpoint 6.3 (Please submit your answer to Moodle)

Assume a 3D double array x is defined as

double x[2][2][3] = { { {3, 4, 2}, {0, -3, 9} }, { {13, 4, 56}, {5, 9, 3}}}; Write a program that would find the maximum and minimum values in this 2-by-2-by-3 double array x. Print the maximum and minimum value after they are found.

```
#include <iostream>

int main(void)
{
	double x[2][2][3] = {{{3, 4, 2}, {0, -3, 9}}, {{13, 4, 56}, {5, 9, 3}}};
	double max = x[0][0][0];
	double min = x[0][0][0];

	for (int i = 0; i < 2; i++)
	{
		for (int j = 0; j < 2; j++)
		{
			for (int k = 0; k < 3; k++)
			{
				max = (x[i][j][k] > max) ? x[i][j][k] : max;
				min = (x[i][j][k] < min) ? x[i][j][k] : min;
			}
		}
	}

	std::cout << max << std::endl;
	std::cout << min << std::endl;

	return 0;
}
```