

CMPT 125 Quiz - September 16, 2019

Name: _____

SFU ID: _____

Q1 . What will be the output of the following program? Write a short explanation.

```
#include<stdio.h>

int main() {
    int x = 1;
    int y = 2;
    int* ptr1 = &x;
    int* ptr2 = &y;
    *ptr2 = 3;
    ptr2 = ptr1;
    *ptr2 = 4;
    printf("%d %d\n", x, y);
    return 0;
}
```

Q2. What will be the output of the following program? Write a short explanation.

```
#include<stdio.h>

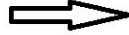
int main() {
    int ar[3] = {10, 20, 30};
    int* ptr1 = ar;
    int* ptr2 = ar + 2;
    *ptr1 = 5;
    ptr1 = ptr2 - 1;
    printf("%d %d %d\n", ar[0], ar[1], ar[2]);
    *ptr2 = ar[0];
    ar[0] = *ptr1;
    printf("%d %d %d\n", ar[0], ar[1], ar[2]);
    return 0;
}
```

ANSWERS:

Q1: 4 3

var	data	address
x	1	0x123456
y	2	0x12345a
ptr1	0x123456	
ptr2	0x12345a	

**ptr2 = 3
ptr2 = ptr1**



var	data	address
x	1	0x123456
y	X 3	0x12345a
ptr1	0x123456	
ptr2	0x123456	

***ptr = 4**



var	data	address
x	X 4	0x123456
y	3	0x12345a
ptr1	0x123456	
ptr2	0x123456	

Q2:

5 20 30

20 20 5

ar	data	address
ar[0]	10	0x762a32
ar[1]	20	0x762a36
ar[2]	30	0x762a3a
ptr1	0x762a32	
ptr2	0x762a3a	

***ptr1 = 5;
ptr1 = ptr2 - 1;**



ar	data	address
ar[0]	10 5	0x762a32
ar[1]	20	0x762a36
ar[2]	30	0x762a3a
ptr1	0x762a36	
ptr2	0x762a3a	

***ptr2 = ar[0];**



ar	data	address
ar[0]	5	0x762a32
ar[1]	20	0x762a36
ar[2]	10 5	0x762a3a
ptr1	0x762a36	
ptr2	0x762a3a	

ar[0] = *ptr1;



ar	data	address
ar[0]	5 20	0x762a32
ar[1]	20	0x762a36
ar[2]	5	0x762a3a
ptr1	0x762a36	
ptr2	0x762a3a	