

Name : \_\_\_\_\_

CS 100 Quiz #9

Give the output of the C program shown below:

```
#include <stdio.h>

typedef struct item {
    int value;
    struct item *next;
} Item;

int main(void) {
    Item a, b, c;
    a.value = 1; a.next = &b;
    b.value = 1; b.next = &c;
    c.value = 1; c.next = &a;
    Item *ptr = &a;
    for (int z=2; z<7; z++) {
        ptr->value = ptr->value * z;
        ptr = ptr->next;
    }
    printf("%d and %d and %d\n",
        a.value, b.value, c.value);
    return 0;
}
```



Give the output of the C program shown below when the user enters the input: 3 1 4 1 5 9 2 6

```
#include <stdio.h>

typedef struct point {
    int x; int y;
} Point;

double f(Point a, Point b) {
    if (a.x == b.x) return -999999999;
    return (double)(b.y-a.y) / (double)(b.x-a.x);
}

int main(void) {
    Point data[5];
    for (int a=0; a<4; a++) {
        scanf("%d", &data[a].x);
        scanf("%d", &data[a].y);
    }
    printf("%lf\n", f(data[1], data[3]) );
    printf("%lf\n", f(data[0], data[2]) );
    return 0;
}
```

