CS241 #02 *See C Crash (part 2) !*

1. Explain how C uses memory from the process address space in each line of the following. (eg. stack, text segment, heap, global). Where do you expect this code to fail?

|  |
| --- |
| 1. int global; 2. void test() { 3. char\* t1 = "hi"; // Initialize a pointer 4. char t2[] = "abcdefgh"; // copies bytes 5. \*t2 = 'A'; 6. \*(t2 + 1) = 'B'; 7. t2[1] = 'B'; 8. \*t1 ='H'; 9. t1 = malloc(123); 10. } |

2. What would you call at line 2 such that p1 can be equal to p2?

1. void\* p1 = malloc( 10 );
2. ??\_\_\_\_\_
3. void \*p2 = malloc(8);

3. What are asprintf sprintf and fprintf?

4. For the start of the program, main(int argc, char\*\* argv)

What is special about argv[0]

What is special about argv[argc]

How do you print out all of the arguments of a program?

1. int main(int argc, char\*\* argv) {

5. Which of the following would print out an address in the stack?

1. int abc = 5;
2. int main() { f1( 10, &abc); return 0;}
3. int f1(int v1, int\* v2) {
4. printf("&v1 is %p \n", &v1);
5. printf("&v2 is %p \n", &v2);
6. printf(" v2 is %p \n", v2);
7. }

6. What are strcpy, strcat, strlen, strcmp ?

7. Which of the following is/are incorrect?

1. const char\* f1() {
2. const char blah[] = "Hello";
3. return blah;
4. }
5. const char\* f2() {
6. const char\* foo = "Hi";
7. return foo;
8. }
9. char\* f3() {
10. char\* yo = malloc(2);
11. strcat(yo, "Hi");
12. return yo;
13. }

8. How do I change your variable? Complete the main function to print the message created by the getMessage function

1. void getMessage(char\*\*magic) {
2. \*magic = malloc(10);
3. strcpy(\*magic, "Amazing C!");
4. }
5. int main() {
6. char\* ptr = NULL;
7. ?
8. puts( \_\_\_\_\_);
9. }