

1) (5 pts) ALG (Dynamic Memory Management in C)

The following function has 5 memory management issues, each one occurring on a different one of the 17 labeled lines of code. Please clearly list which five lines of code have the errors on the slots provided below. **Please list exactly five unique line numbers in between 1 and 17, inclusive. An automatic grade of 0 will be given to anyone who lists MORE than 5 line numbers.**

```
int n = 10; // line 1
int *p1, *p2, *p3, **p4; // line 2
char str1[100] = "test string"; // line 3
char *str2; // line 4
strcpy(str2, str1); // line 5
p1 = (int *)malloc(n * sizeof(int)); // line 6
p2 = (int *)malloc(n * sizeof(int)); // line 7
for(int i=0; i<n; i++) // line 8
    p1[i] = rand()%100; // line 9
p2 = p1; // line 10
*p3 = 50; // line 11
p4 = (int **) malloc(n * sizeof(int*)); // line 12
for(int i=0; i<n; i++) // line 13
    p4[i] = -5; // line 14
free(p1); // line 15
free(p2); // line 16
free(p4); // line 17
```

Lines with Memory Management Errors: 5, 10, 11, 14, 16

**Grading: 1 pt for each correct answer on a slot. 0 automatically if more than 5 items are listed.**