CS107 Final Exam
Answer Booklet

CS107 Winter 2019 – Instructor: Nick Troccoli

You may not use any internet devices. You will be graded on functionality – but good style saves time and helps graders understand what you were attempting. You have 180 minutes. We hope this exam is an exciting journey.

Note: Only work in this answer booklet will be graded. The backs of pages are available as space for each problem as well.

First Name: _____

Last Name: _____

SUNET ID (part before @stanford.edu): _____

By signing below, I commit to the letter and spirit of the honor code. I agree not to access any unauthorized resources or swap to any other applications for the duration of the exam.

_____
Sign here

Problem 1A

Problem 1B

Problem 1C

Problem 1D

Problem 2A

```c
bool insert_sorted(void *base, int nelems, int elem_size_bytes,
    void *elem_to_insert, int (*cmp_fn)(void *, void *)) {
    // your code here
```

Problem 2B

```
int compare_ints(void *a, void *b) {
    // your code here
```

Problem 3A

```c
// Replace/fill in in the blanks below

int foo(int n, char *input) {

    int x = strlen(_____);

    int sum = x + _____;

    for (int i = _____; _____; _____) {

        sum += _____;

    }

    if (_____) {

        input[_____] = '\0';

        sum = _____;

    }

    return _____;

}
```

Problem 3B

Problem 3C

Problem 3D

Problem 4A

Problem 4B

Problem 5A

```
void set_header_status(block_header *header, int status) {
      // your implementation here
```

Problem 5B

```
void* get_payload(block_header *header) {
    // your implementation here
```

Problem 5C

```
void set_previous_free_ptr(block_header *header1,
     block_header *prev) {
     // your implementation here
```

```
void set_next_free_ptr(block_header *header1,
    block_header *prev) {
    // your implementation here
```

Problem 5D

```
void add_temp_block_to_freelist(block_header *header) {
      // your implementation here
```

Problem 5E

```
void *mytalloc(size_t requested_size) {
      // your implementation here
```