**Midterm 2 Programming solutions**
**CSE 142 Summer Quarter**

**Question 13:**

```
int froggy_jumps(int numfeet) {
  int num_jumps = 0;
  int jump_height = 1;      /* first jump is 1 ft */
  int distance_jumped = 0;

  while (distance_jumped < numfeet) {
    num_jumps++;
    distance_jumped = distance_jumped + jump_height;
    if (distance_jumped >= numfeet) { /* jump brings frog over well
edge */
      printf("%d %d ",distance_jumped,jump_height);
      return num_jumps;
    }
    distance_jumped = distance_jumped - 1;         /* slips back 1 ft
*/
    jump_height = jump_height * 2;   /* height of next jump */
  }
  return num_jumps;
}
```

**Question 14:**

```
#include <stdio.h>


void vote(int *num_democrats, int *num_republicans) {
  char choice = 'a';
  *num_democrats = 0;
  *num_republicans = 0;

  printf("Enter votes: d for Democrat, r for Republican\n");
  while (choice != 'q') {
    printf("Vote: ");
    scanf(" %c",&choice);
    if (choice == 'd')
      *num_democrats = *num_democrats + 1;
    if (choice == 'r')
      *num_republicans = *num_republicans + 1;
  }
}

void results(int num_democrats, int num_republicans) {
  double total;

  total = num_democrats + num_republicans;
  printf("Democrats got %2.0f%% of the
vote\n",(num_democrats/total)*100.0);
  printf("Republicans got %2.0f%% of the
vote\n",(num_republicans/total)*100.0);
}
```

```
int main(void) {
  int num_democrats;
  int num_republicans;

  vote(&num_democrats, &num_republicans);
  results(num_democrats, num_republicans);

  return 0;
}
```