# Quiz 4

### 15 December 2011

1. What is the output of the following code?

```
int k = 0;
int n = 38;
while(n != 0)
{
    n /= 2;    // integer division, no decimal points!
    k++;
}
printf("%d\n", k);
return 0;
```

2. What is the output of the following code?

```
const int ROWS = 3;
const int COLS = 5;
for(int i = 0; i < ROWS; i++)
{
    for(int j = 0; j < COLS; j++)
    {
        if( (i+j)%2 == 0 )  // if sum is EVEN,
        {
            printf("x");
        }
        else
        {
            printf(" "); // one space
        }
    }
    printf("\n");
}
```

3. Convert the following `for` loop into a `while` loop that does the same thing.

```
int sum;
for(int i = 0; i < MAX; i++)
{
    sum += i;
}
printf("sum is %d\n", sum);
```