CSC453
Parallel Processing
HW# 3

Ammar Alamri Std#: 438104833

Ranking Sort Implementation:

```
__global__ void rankingSort(int* in, int* out, int N) {
	int index = (blockDim.x * blockIdx.x + threadIdx.x);
	int rank = 0, same = 0;

	for (int i = 0; i < N; i++) {
		if (in[index] > in[i])
			rank++;
		if (in[index] == in[i])
			same++;
	}
	for (int i = 0; i < same; i++)
		out[rank + i] = in[index];
}

int main() {
	/* main function */
	/* Allocation and array generation */
	random_ints(a, N)
	cudaMemcpy(d_a, a, size, cudaMemcpyHostToDevice);

	rankingSort << <1, N >> > (d_a, d_b, N);

	cudaMemcpy(b, d_b, size, cudaMemcpyDeviceToHost);
	/* free memory */
	return 0;
}
```