



INTRODUCTION TO COMPUTERS II

LAB 2: WORKING WITH THE MEMORY

1. Develop a RISC-V assembly program to find the minimum value within an integer vector (use the **pr2_a** project in the Workspace):

```
#define N 8
#define INT_MAX 65536
int V[N] = {-7,3,-9,8,15,-16,0,3};

int min = INT_MAX;
for (i=0; i<N; i++){
    if (V[i] < min)
        min = V[i];
}
```

2. Reuse the previous code and develop a RISC-V assembly program to sort an integer vector V into a target vector W. The elements of W will be the elements of V, but sorted from minimum to maximum. The elements of V will be replaced with the value INT_MAX after they have been sorted in W (use the **pr2_b** project in the Workspace):

```
#define N 8
#define INT_MAX 65536
int V[N] = {-7,3,-9,8,15,-16,0,3};
int W[N];
int min , index ;
for (j = 0; j < N; j++) {
    min = INT_MAX ;
    for (i = 0; i < N; i++) {
        if (V[i] < min ) {
            min = V[i];
            index = i ;
        }
    }
    W[j] = V[index];
    V[index] = INT_MAX ;
}
```