The experiment has 16 thermocouples but the data acquisition device has only 8 analogue inputs. In order to accommodate all the thermocouples an 8-way switching box has devised. In your software you will have created a series of arrays or vectors (or a 2D array or a datatable) to store your readings. Readings are taken by filling the elements 0-7 of your array with readings from thermocouples 1-8, switching over to thermocouples 9-16 and filling array elements 8-15. The switch is activated by applying 5V to its switch input; the switch input is wired by default to analogue output 0, though you can use any analogue or digital output. For each set of readings your code will look something like this:

At the start of your program, initialise analogue output 0 (ao0) (or whatever you're using) to 0V

Then put this loop inside your readings loop:

```
for(1 to 8)
{
        Read voltage to array element[n]
}
Set ao0 to 5V
for(1 to 8)
{
        Read voltage to array element[n+8]
}
Set ao0 to 0V
```