For this assignment you should write an MPI program that reads in a list of $p$ ints. It should use MPI_Scatter to distribute the ints among the processes, and the processes should carry out a circular shift of one int/process to the right. When the shift is completed, they should use MPI_Gather to gather the shifted list, and print it out.

So the input and output might look something like this

```bash
$ usfmpiexec -n 4 ./h8
Please enter the list
1 2 3 4
list = 4 1 2 3
```

You can assume that the input is correct. You should read in the ints on process 0 and scatter them using MPI_Scatter. If there’s more than one process, you should use MPI_Send and MPI_Recv to carry out the circular shift. Finally, you should gather the ints on process 0 using MPI_Gather, and process 0 should print the shifted list.

Note that in the call to MPI_Scatter some MPI implementations complain if the argument `sendbuf` hasn’t been initialized on all the processes. Similarly some implementations complain if the argument `recvbuf` hasn’t been initialized on all the processes in a call to MPI_Gather. You can avoid this issue by assigning the uninitialized pointers the value NULL.