

```
1  #include <stdio.h>
2  #include <string.h>
3  #include "mpi.h"
4
5  int main(int argc, char* argv[]) {
6      int    my_rank;      /* rank of process */
7      int    p;            /* number of processes */
8      int    source;       /* rank of sender */
9      int    dest;         /* rank of receiver */
10     int    tag = 666;     /* tag for messages */
11     char    message[100]; /* storage for message */
12     MPI_Status status;    /* return status for */
13                          /* receive */
14     /* Start up MPI */
15     MPI_Init(&argc, &argv);
16
17     MPI_Comm_rank(MPI_COMM_WORLD, &my_rank);
18
19     /* Find out number of processes */
20     MPI_Comm_size(MPI_COMM_WORLD, &p);
21
22     if (my_rank != 0) {
23         /* Create message */
24         sprintf(message, "Greetings from process %d!", my_rank);
25         /* Use strlen+1 so that '\0' gets transmitted */
26         MPI_Send(message, strlen(message)+1, MPI_CHAR, 0, tag, MPI_COMM_WORLD);
27     } else { /* my_rank == 0 */
28         for (source = 1; source < p; source++) {
29             MPI_Recv(message, 100, MPI_CHAR, source, tag, MPI_COMM_WORLD, &status);
30             printf("%s\n", message);
31         }
32     }
33
34     /* Shut down MPI */
35     MPI_Finalize();
36
37
38 } /* main */
39
```