

Assignment 16. MPI. Operations with communicators. Renumbering processes.

In the **MPI_Comm_split** function (Assignment16.c), replace the color parameter with (rank% 2), (rank% 3), look at how many groups the processes are split into, depending on the specified attribute of division into groups.

```
int MPI_Comm_split (MPI_Comm comm, int color, int key, MPI_Comm *newcomm)
```

- **comm** - parent communicator
- **color** - a sign of division into groups
- **key** - parameter defining numbering in new groups
- OUT **newcomm** - new communicator

The function splits the group associated with the parent communicator into non-overlapping subgroups, one for each value of the color subgroup attribute. **Color** must be non-negative. Each subgroup contains processes with the same **color** value. The **key** parameter controls the ordering within the new groups: a lower **key** value corresponds to a lower process ID value. If the **key** parameter is equal for multiple processes, the ordering is performed according to the order in the parent group.