1 Setup of the working environment

Let's create directories for our data:

```
mkdir programs
mkdir NGS_data
mkdir bin
```

Many of the open source tools are deposited in the *github.com* repository. To download software from github.com easily, we will use a tool called *git*.

Git is already preinstalled on our servers, however, on your own Ubuntu servers you can install it by typing:

```
sudo apt-get install git
```

We will need a tool named samtools and we will download it with *git*. To install samtools, type:

```
cd programs
git clone https://github.com/samtools/samtools
git clone https://github.com/samtools/htslib
cd samtools
make
```

To test whether samtools compiled correctly, type:

```
./samtools
```

If you see the program's interface, then the program was compiled correctly. Move obtained file to a directory where we will store our compiled software.

```
cp samtools ~/bin
cd
```

Installation of IonTorrent mapping software *tmap*:

```
cd programs
git clone https://github.com/iontorrent/TS/tree/master/Analysis/TMAP
cd TMAP
git submodule init
git submodule update
sh autogen.sh
./configure
make
```