Running R jobs

R is installed on Prince. It is compiled with intel compiler. R can be run in interactive session or the batch mode. To check what versions are available:

```
$ module avail r/intel
```

```
------------------------------------------ /share/apps/modulefiles
-------------------------------------------------
  gstreamer/intel/1.10.2    mothur/intel/1.35.1    r/intel/3.3.2
```

It is shown that R 3.3.2 exists presently as of Jan 12, 2017. You can check what packages are installed with this R installation. If a package you need does not show up in a check as below (please do run it as installation updating is a constantly ongoing process), please contact HPC support.
Long running and big data crunching jobs ought to be submitted as batch, so that they will run in the background and Slurm will drive their executions. Below are a R script "example.R", and a job script which can be used with sbatch command to send a job to Slurm:

```bash
$ module purge
$ module list
No modules loaded
$ module load r/intel/3.3.2
$ module list
Currently Loaded Modules:
  1) intel/17.0.1  2) jdk/1.8.0_111  3) r/intel/3.3.2

$ R
R version 3.3.2 (2016-10-31) -- "Sincere Pumpkin Patch"
Copyright (C) 2016 The R Foundation for Statistical Computing
Platform: x86_64-centos-linux-gnu (64-bit)
[......]

> installed.packages()

<table>
<thead>
<tr>
<th>Package</th>
<th>LibPath</th>
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<tr>
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</tbody>
</table>

$ cat example.R

df <- data.frame(x=c(1,2,3,1), y=c(7,19,2,2))
df
indices <- order(df$x)
order(df$x)
df[indices,]
df[rev(order(df$y)),]

$ cat run-R.sbatch
#!/bin/bash
#
#SBATCH --job-name=RTest
#SBATCH --nodes=1
#SBATCH --tasks-per-node=1
#SBATCH --mem=2GB
#SBATCH --time=01:00:00

module purge
module load r/intel/3.3.2

cd /scratch/$USER/examples
## srun R CMD BATCH example.R example.out
R --no-save -q -f example.R > example.out 2>&1

exit

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