Installing the latest versions of R and Rcpp on Ubuntu

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These notes explain how to install R and the R module Rcpp on Ubuntu Linux. When I made these notes, I was running Ubuntu Server 12.04 LTS as a virtual machine running on Windows Azure.

Ubuntu does not ship with R. Here's what I get when I try running R on a new virtual machine:

```
> R
```

```
The program 'R' is currently not installed.  To run 'R' please ask
 your administrator to install the package 'r-base-core'
```

So I do what it suggests and run

```
> sudo apt-get install r-base-core
```

This installs R. When I run it, this is what I see:

```
R version 2.14.1 (2011-12-22)
Copyright (C) 2011 The R Foundation for Statistical Computing
ISBN 3-900051-07-0
Platform: x86_64-pc-linux-gnu (64-bit)
```

Notice this R version 2.14.1, released six months ago. This is typical: the default Ubuntu repositories may not contain the latest versions of software.

I try installing Rcpp from the R command prompt

```
> install.packages("Rcpp")
```

and I get this warning:

```
Warning message:
In getDependencies(pkgs, dependencies, available, lib) :
  package âRcppâ is not available (for R version 2.14.1)
```

(I don't understand what it means by saying that Rcpp is not available for R version 2.14.1. The Rcpp package has been around a long time, and I imagine it *was* available for R version 2.14.1 but perhaps is it no longer is available.)

Update: If you install Rcpp from the shell with `apt-get` rather than from inside R, you can don't have the problem mentioned above; you can install Rcpp without upgrading R. The command is
`sudo apt-get install r-cran-rcpp`

I uninstalled R with this command at the shell prompt:

```
> sudo apt-get remove r-base-core
```

Next I go to CRAN and look for instructions for installing the latest version of R.

```
http://cran.revolutionanalytics.com/bin/linux/ubuntu/
```

(You could see a different URL depending on which mirror you visit.)

Per the instructions, I edit `/etc/apt/sources.list` (using `sudo`, because the file is protected).

I add the line suggested:

```
deb http://cran.revolutionanalytics.com/bin/linux/ubuntu precise/
```

I'm using revolutionanalytics.com because it's a near-by CRAN mirror. The argument "precise" at the end refers to the version of Ubuntu I'm running. Each version of Ubuntu has a nick name, and the nickname for version 12.04 is "Precise Pangolin." (A pangolin is an animal sorta like an armadillo.)

Also per the instructions, I add the key used to sign CRAN packages using the following command:

```
> sudo apt-key adv --keyserver keyserver.ubuntu.com --recv-keys E084DAB9
```

Next I run these two commands:

```
> sudo apt-get update
> sudo apt-get install r-base
```

I then start R and install Rcpp from the R command line using

```
> install.packages("Rcpp")
```


I'd rather not create a personal library, so I exit R and open it again using sudo. Then Rcpp installs without incident.