TRABAJO PRACTICO Nº …10….

Objetivos

- Resolver actividades de lecto- comprensión de diferente complejidad.
- Incorporar vocabulario técnico- científico en LE.

ACTIVIDADES

1- **LEA** el siguiente texto y **RESUELVA**.

2- ¿Qué datos se especifican de este proyecto?

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3- **ANOTE TRES** características para cada apartado en la tabla.

WinBUGS 1.4.3	OpenBUGS

4- **ANOTA** a cuál de los dos corresponde: **JAGS** o **Stan**.

- Lo desarrollaron en la universidad de Columbia.
- Este programa fue desarrollado por Martyn Plummer.
- Opera con Linux y Windows.
- Detrás de el subyace una idea diferente.
- Este programa fue re- escrito.

5- **COMPLETA** ambas líneas con una idea no dicha anteriormente.

- JAGS es

……

……

- Stan
  ……
  ……..

6- ¿Qué tiempos verbales se ejemplifican en los ejemplos que citamos a continuación?

- The OpenBUGS project **<u>can be found</u>** here. …….
- Many developments are now taking place using OpenBUGS. **……..**
- WinBUGS development site includes facilities to add distributions, functions, and includes add-ons for pharmacokinetic modelling, differential equations, and reversible jump MCMC. ……..

7- ENCUENTRA:

- Una estructura comparativa: …….
- Una oracion en pasado simple ……..
- Dos ejemplos de adverbios: …….

TEXTO PARA LEER

Background to BUGS

The BUGS (**B**ayesian inference **U**sing **G**ibbs **S**ampling) project is concerned with flexible software for the Bayesian analysis of complex statistical models using Markov chain Monte Carlo (MCMC) methods. The project began in 1989 in the MRC Biostatistics Unit, Cambridge, and led initially to the `Classic' BUGS program, and then onto the WinBUGS software developed jointly with the Imperial College School of Medicine at St Mary's, London.

Development is now focussed on the OpenBUGS project.

WinBUGS 1.4.3

This site at the MRC Biostatistics Unit is primarily concerned with the stand-aloneWinBUGS 1.4.3 package.

- Features a graphical user interface and on-line monitoring and convergence diagnostics.
- Over 30000 downloads, and a huge number of applications and links.

- WinBUGS development site includes facilities to add distributions, functions, and includes add-ons for pharmacokinetic modelling, differential equations, and reversible jump MCMC.
- Can be called from R with R2WinBUGS.

WinBUGS 1.4.3 is a stable version which is recommended for standard use. However many developments are now taking place using OpenBUGS. **Note: The preferred reference for citing WinBUGS in scientific papers is:** Lunn, D.J., Thomas, A., Best, N., and Spiegelhalter, D. (2000) WinBUGS -- a Bayesian modelling framework: concepts, structure, and extensibility. *Statistics and Computing*, **10**:325--337.

OpenBUGS

The OpenBUGS project can be found here.

- Open-source version of the core BUGS code with a variety of interfaces.
- Runs under Windows with a very similar graphical interface to WinBUGS.
- Runs on Linux with a plain-text interface.
- Can be embedded in R as BRugs.
- Different architecture from WinBUGS 1.4.3: this means that WinBUGS 1.4 add-ons on the WinBUGS development site will not yet run in OpenBUGS.

OpenBUGS is the main development platform and is currently experimental, but will eventually become the standard version. The aim is then to transfer new 1.4 functionality to OpenBUGS.

Similar software

JAGS (Just Another Gibbs Sampler) by Martyn Plummer is an open source program which was developed independently of the BUGS project. JAGS uses essentially the same model description language, but it has been completely re-written. This runs natively on Windows, Mac, Linux and several other varieties of Unix. Independent corroboration of MCMC results is always valuable!

Stan is another program for general Bayesian analysis, developed even more recently at Columbia University. It uses a modelling language inspired by BUGS and superficially similar, but it is conceptually different in many ways.

Health warning

The programs are reasonably easy to use and come with a wide range of examples. There is, however, a need for caution. A knowledge of Bayesian statistics is assumed, including recognition of the potential importance of prior distributions, and MCMC is inherently less robust than analytic statistical methods. There is no in-built protection against misuse. Source: http://www.mrc-bsu.cam.ac.uk/software/bugs/