

1/1

CNWRA INFORMATION PROCESSING STANDARD SOFTWARE SUMMARY

01. Summary Date			02. Summary prepared by (Name and phone)			03. Summary action		
Yr.	Mo.	Day	Ron Janetzke 512-522-3318			New	Replacement	Deletion
9	2	08	03. Software title			<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
04. Software Date			SPLUS QC Checks for LHS.			Previous Internal Software ID		
Yr.	Mo.	Day						
9	2	08						

06. Short title	07. Internal Software ID
ReadIhs	

08. Software type	09. Processing Mode	10. APPLICATION AREA	
<input type="checkbox"/> Automated Data System <input checked="" type="checkbox"/> Computer Program <input type="checkbox"/> Subroutine/Module	<input checked="" type="checkbox"/> Interactive <input type="checkbox"/> Batch <input type="checkbox"/> Combination	General <input checked="" type="checkbox"/> Computer Systems Support/Utility <input type="checkbox"/> Scientific/Engineering <input type="checkbox"/> Bibliographic/Textual	Specific <input type="checkbox"/> Management/Business <input type="checkbox"/> Process Control <input type="checkbox"/> Other TPA

11. Submitting organization and address	12. Technical contact(s) and phone
NRC	Rose Byrne 301-504-4668

13. Narrative

See attachment.

*NOTE: Provided by R. BYRNE AT NRC.
This was not used by The CNWRA. BSM
12/31/98*

14. Keywords

JPA, LHS, Quality Control, SPLUS, FORTRAN

15. Computer manufacturer and model	16. Computer operating system	17. Programming language(s)	18. Number of source program statements
		FORTRAN	146
19. Computer memory requirements	20. Tape drives	21. Disk/Drum units	22. Terminals
Virtual			

23. Other operational requirements

24. Software availability	25. Documentation availability
Available <input type="checkbox"/> Limited <input type="checkbox"/> In-house only <input checked="" type="checkbox"/> Active Inactive	Available <input type="checkbox"/> Inadequate <input checked="" type="checkbox"/> In-house only <input type="checkbox"/>

26. FOR SUBMITTING ORGANIZATION USE

This file explains how to run the quality control checks for phase 2 of the IPA. All of the following directions assume that Splus and f77 are present on a Sun workstation or (possibly) another unix-based workstation. The following files are included:

readme.qc	This file
readlhs.f	The fortran program to scan the lhs input file
samlhs.in	A sample lhs input file
samlhs.cmd	The file produced by running readlhs on samlhs.inp
samlhs.lst	The file produced by running Splus on the touched up version of samlhs.cmd (what would appear in the cmdtool in interactive use of Splus).
samlhs.ps	The pictures produced by running Splus on the touched up version of samlhs.cmd, stored as a postscript file.

The first thing to do is to create an executable from readlhs.f. If you wish to use filenames with a total of more than 10 characters, you must change the character*10 declaration for infile, outfile, and psfile in readlhs.f. The executable need only be created once, since it prompts for the file names. The command to create an executable named readlhs.ex is as follows:

```
f77 -o readlhs.ex readlhs.f
```

Our sun generated a few warning messages from the linker, but the executable worked fine. We will follow up with IRM on this problem.

The following run of readlhs created samlhs.cmd. The user's responses are indented.

```
readlhs.ex
Enter the name of the lhs input file (lhs.inp)
  samlhs.in
Enter the name of the file of Splus commands
  samlhs.cmd
Enter scenario number
  1
Type 0 to have Splus use laserjet printer
Or 1 to have Splus use postscript printer
  1
enter name of postscript file
in which Splus will place the pictures
  samlhs.ps
CONSTANT
UNIFORM
NORMAL
LOGNORMAL
```

The file samlhs.cmd needs to be touched up. Use an editor (such as vi) to remove the spaces between the end of the name of the postscript file and the closing quotation mark. The line in question is the first line of the file.

Before running Splus on the file of commands, read the data in the lhs output file into Splus. Change into the directory in which the lhs output file resides and issue the following commands

```
Splus
allin.s# <- matrix(scan("lhs.out"), byrow=T, ncol=##)
input.s# <- allin.s#[,3:##]
q()
```

where # is the scenario number and ## is 2+the number of input variables.

Since we could not read the lhs output file because it had both commas and spaces as separators, we generated some sample data using Splus's random number generators. I have spoken to Ron Janetzke about fixing the lhs output file.

Splus

```
cnst <- rep(2,1000)
unfrm <- runif(1000,min=2,max=5)
nrml <- rnorm(1000,mean=(0.241+4.46)/2,sd=(4.46-0.241)/6.18)
lnrml <- rlnorm(1000,meanlog=(log(0.3117e-03)+log(0.5775e-02))/2,
               sdlog=(log(0.577e-02)-log(0.311e-03))/6.18)
input.s1 <- matrix(c(cnst,unfrm,nrml,lnrml),ncol=4)
q()
```

From the directory in which you log in, run Splus in batch mode on the file of commands. The files samlhs.ps and samlhs.lst were created as follows:

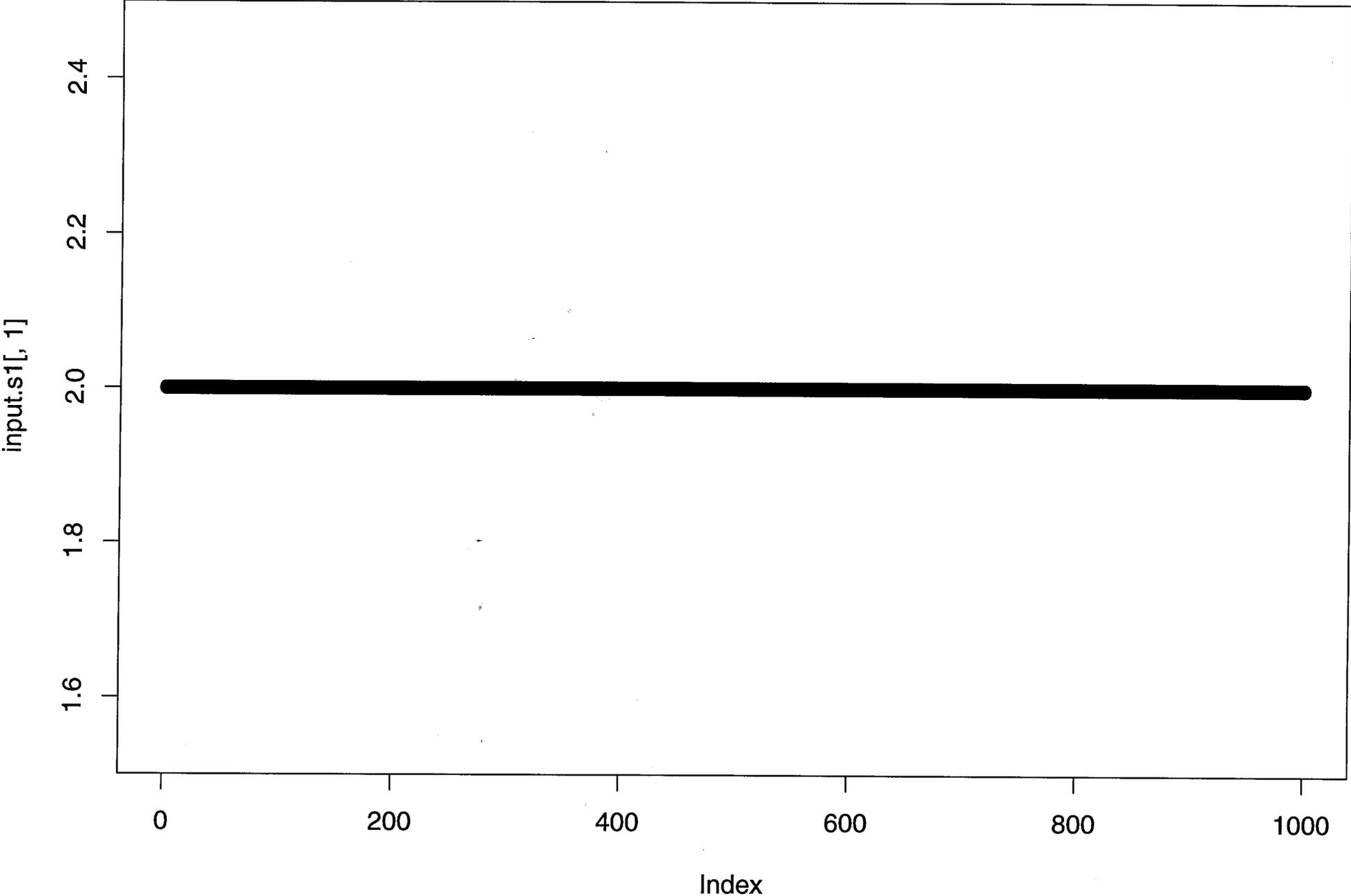
```
Splus BATCH samlhs.cmd samlhs.lst
```

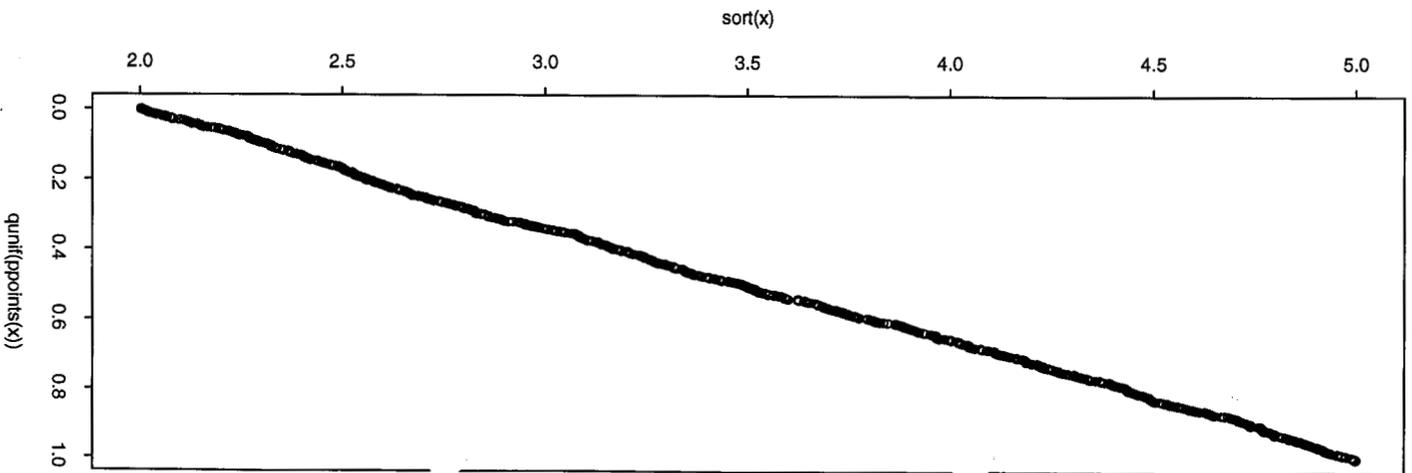
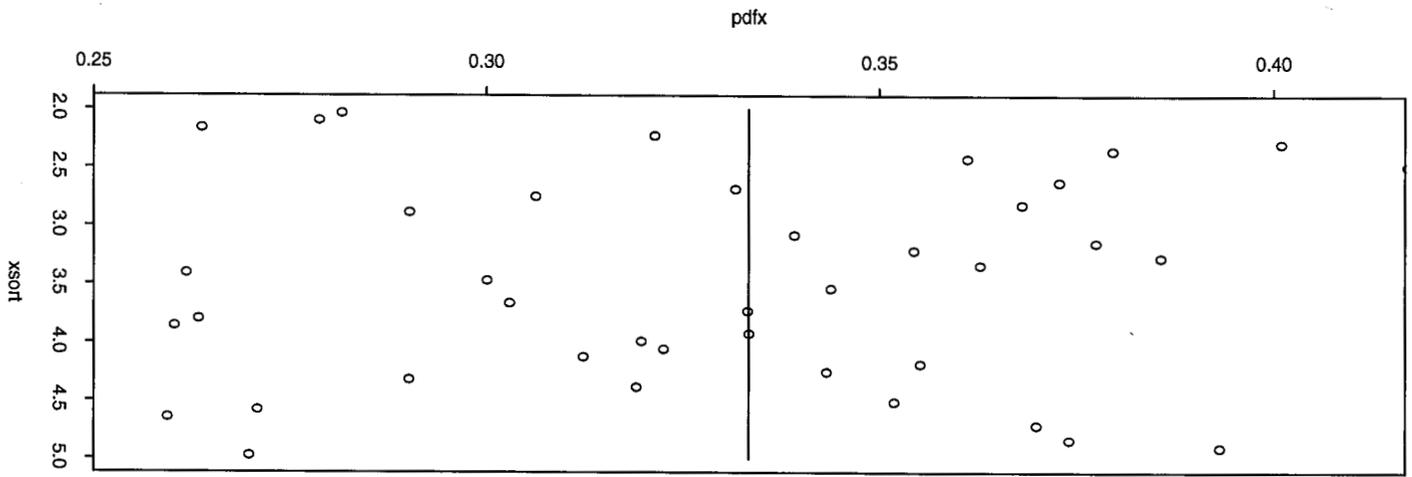
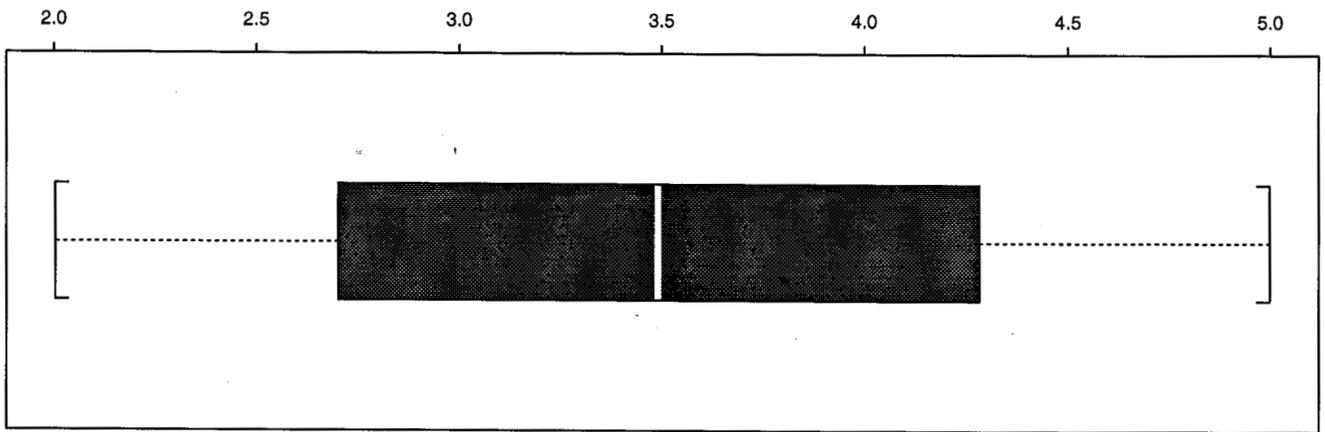
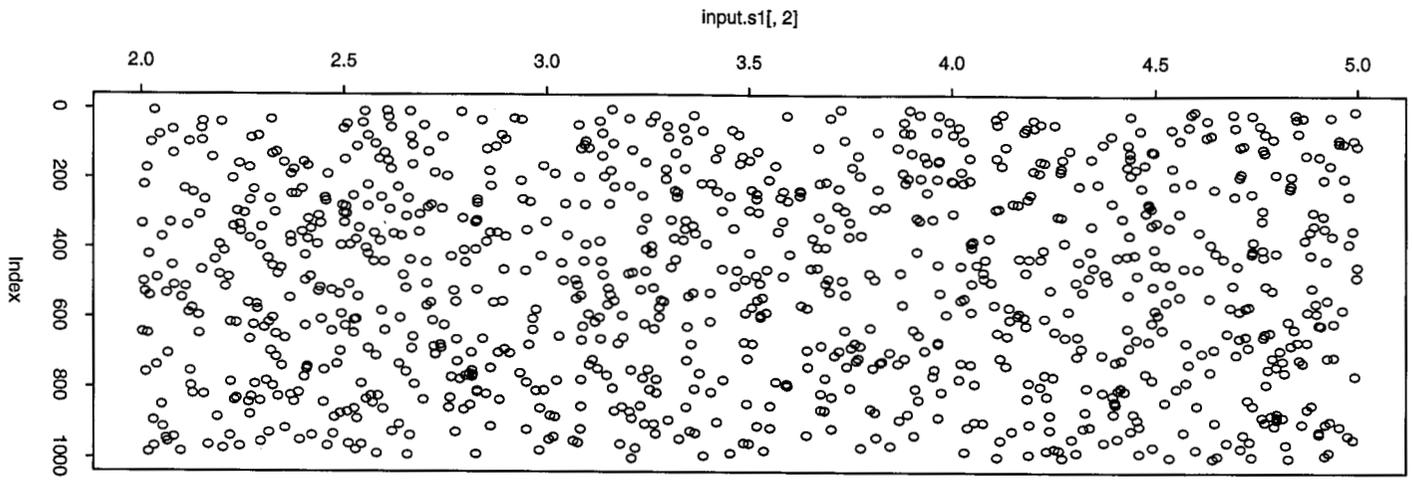
postscript
JOB 203
SAMLHS.PS

For: janetzke
Date: Mon Aug 10 14:49:28 CDT 1992

Submit queue: TCP/IP
Submitted: 155:53:31
Started: 155:53:32

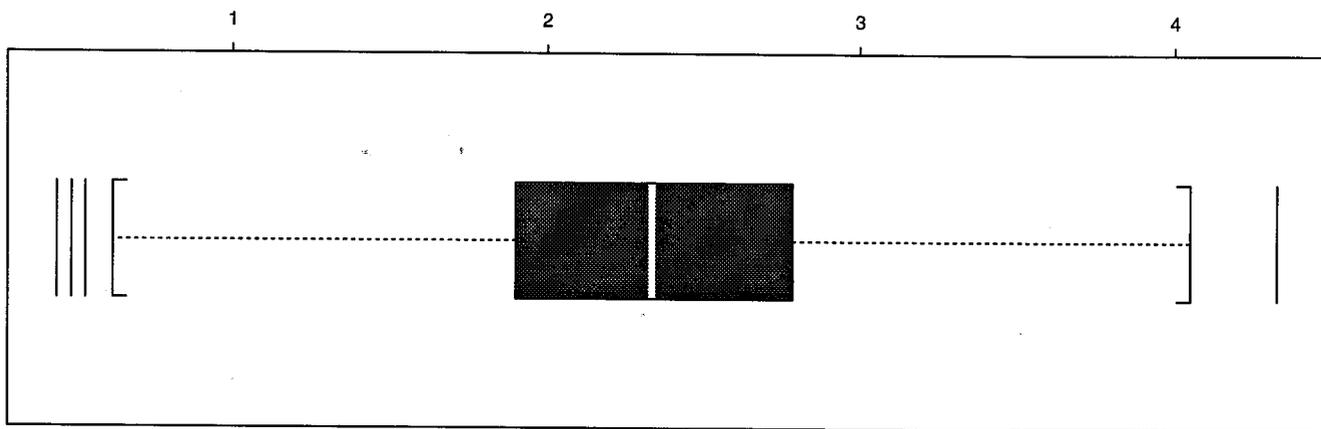
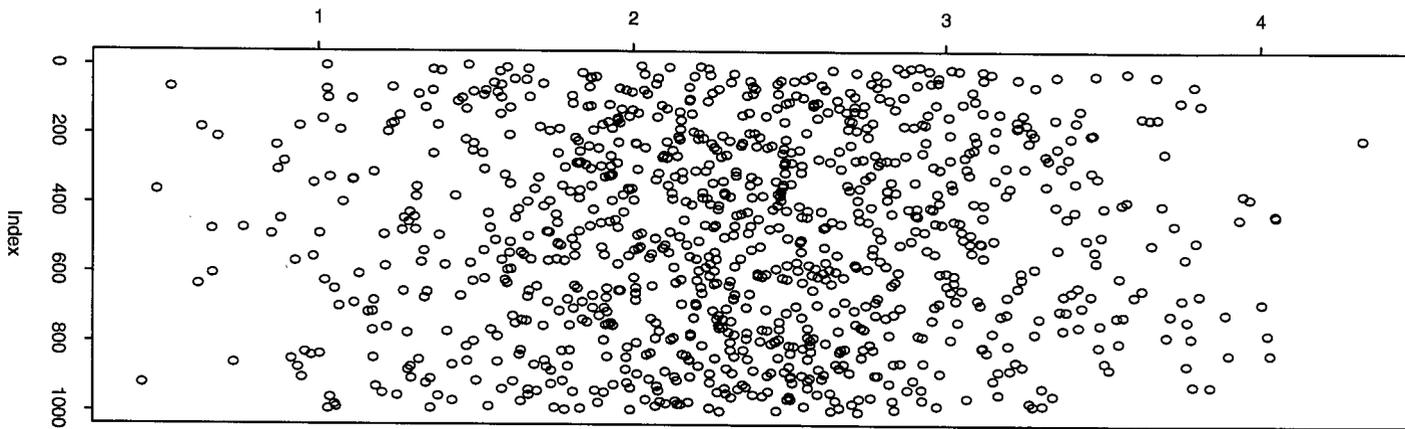
Constant Distribution



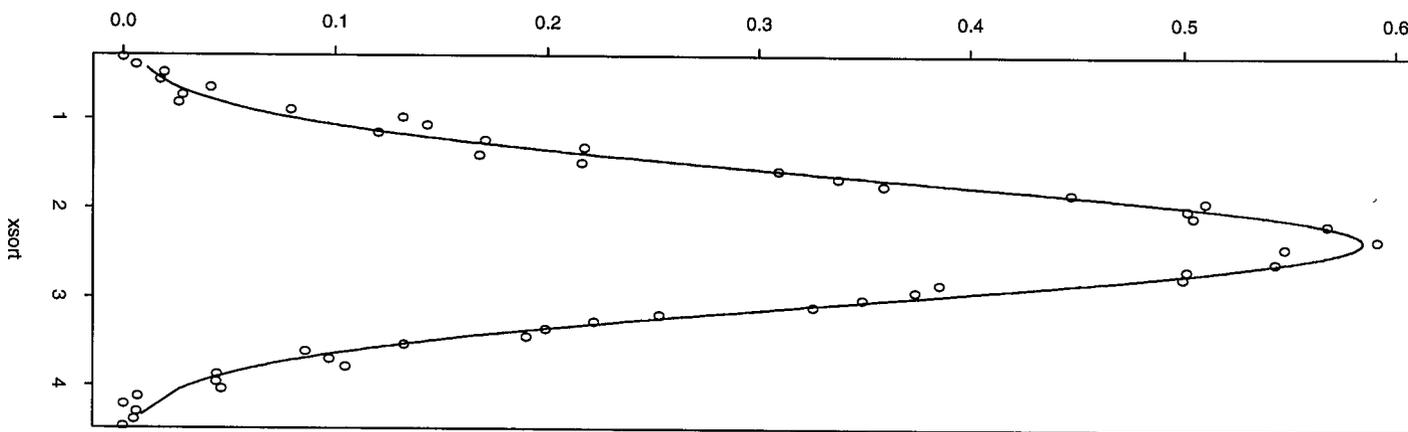


Uniform Distribution

input.s1[, 3]

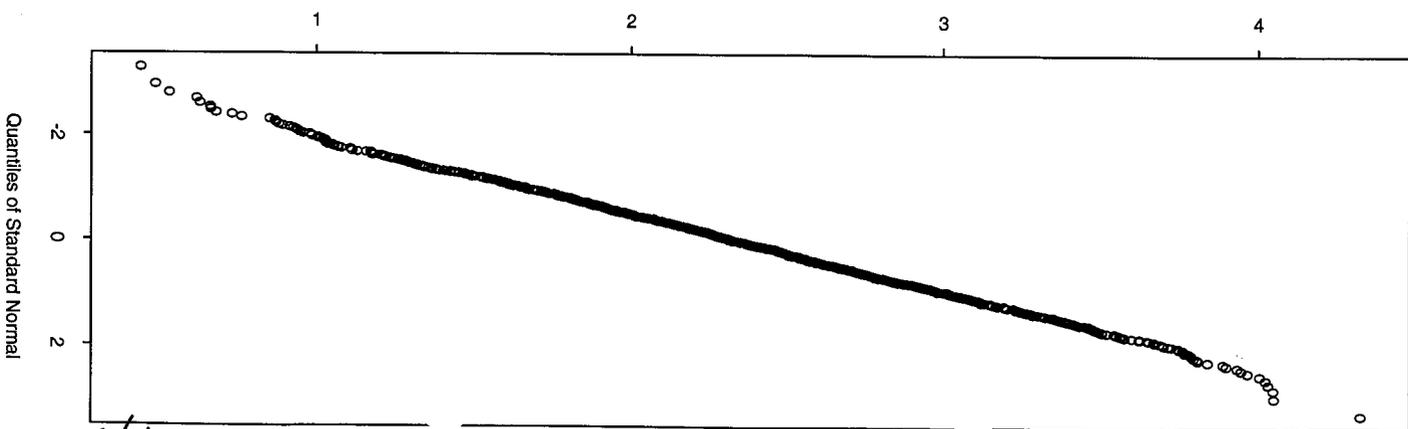


pdfx

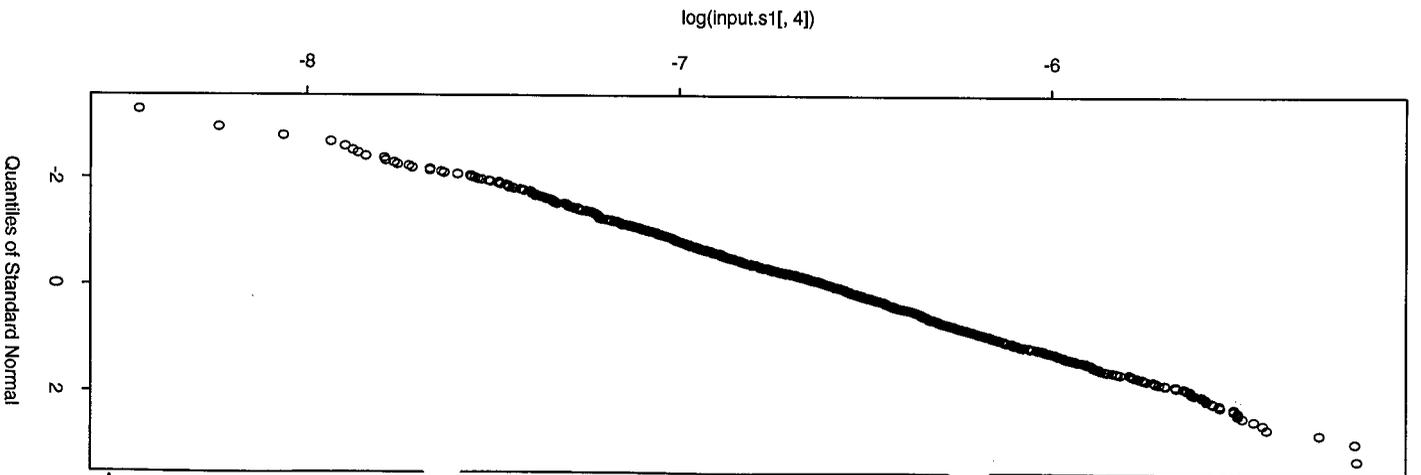
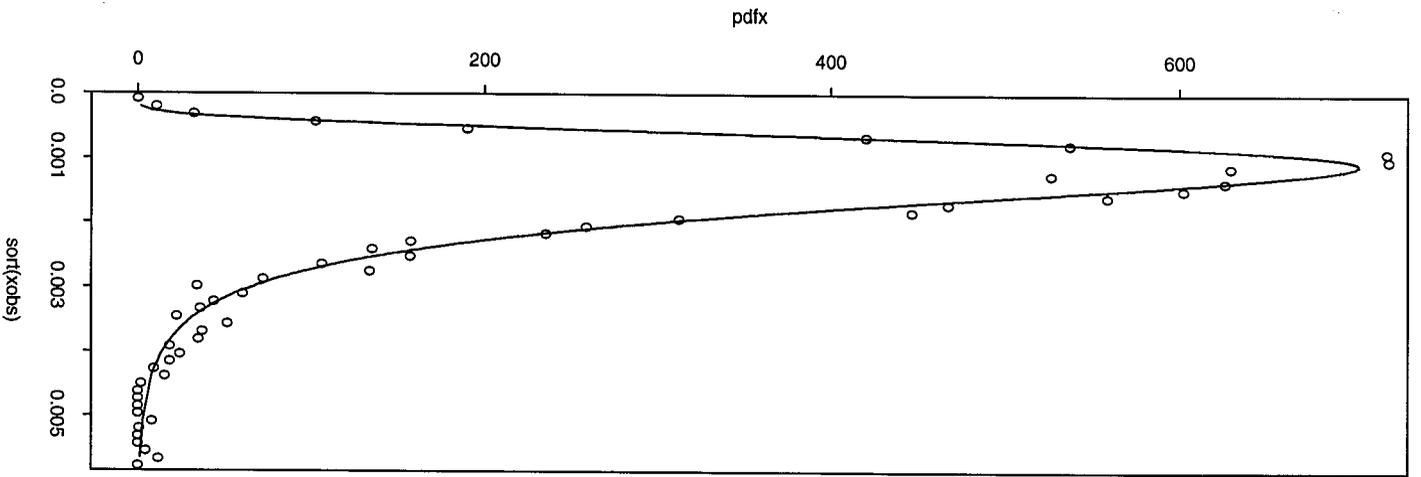
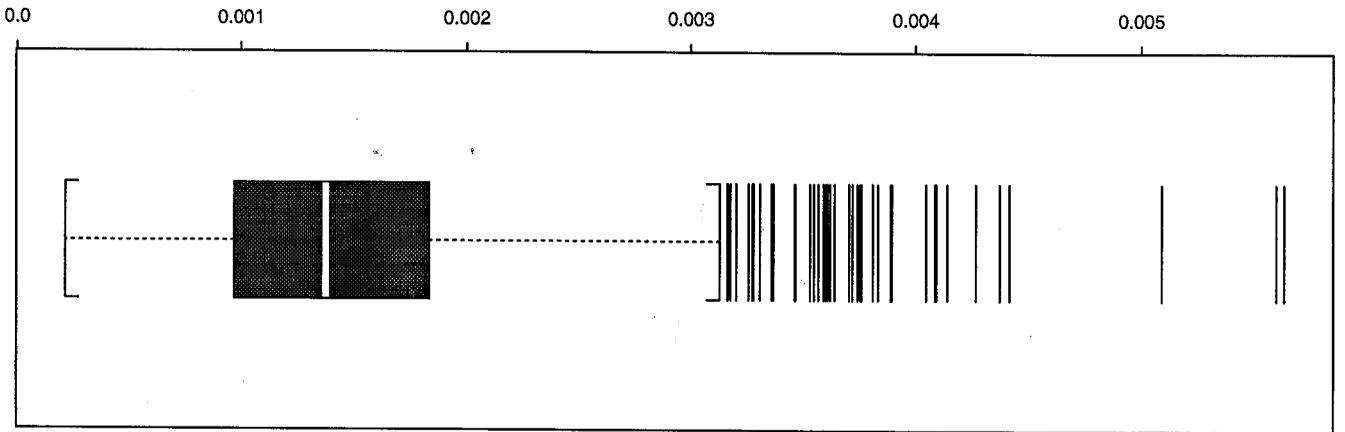
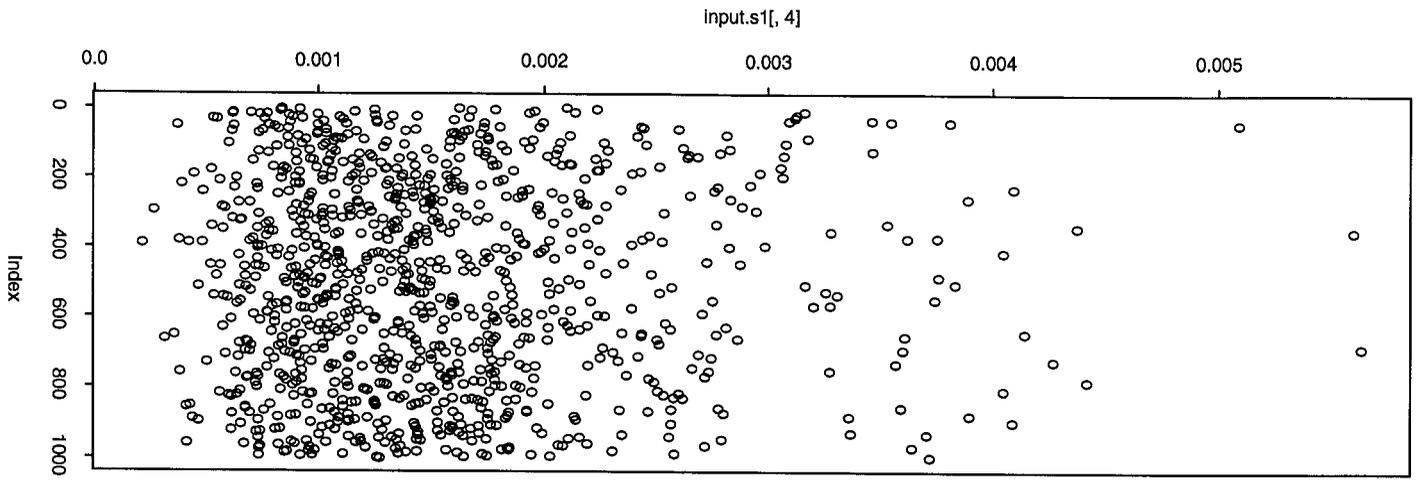


Normal Distribution

input.s1[, 3]



8/6



Lognormal Distribution