

CNWRA INFORMATION PROCESSING STANDARD SOFTWARE SUMMARY

01. Summary Date Yr. Mo. Day 9 2 0 8 1 1			02. Summary prepared by (Name and phone) Ron Janetzke 512-522-3318			03. Summary action New <input checked="" type="checkbox"/> Replacement <input type="checkbox"/> Deletion <input type="checkbox"/> Previous Internal Software ID		
04. Software Date Yr. Mo. Day 9 2 0 8 1 0			03. Software title SPLUS QC Checks for LHS.					
06. Short title Readlhs						07. Internal Software ID		
08. Software type <input type="checkbox"/> Automated Data System <input checked="" type="checkbox"/> Computer Program <input type="checkbox"/> Subroutine/Module			09. Processing Mode <input checked="" type="checkbox"/> Interactive <input type="checkbox"/> Batch <input type="checkbox"/> Combination			10. APPLICATION AREA General <input checked="" type="checkbox"/> Computer Systems Support/Utility <input type="checkbox"/> Scientific/Engineering <input type="checkbox"/> Bibliographic/Textual Management/Business <input type="checkbox"/> Process Control <input type="checkbox"/> Other Specific TPA		
11. Submitting organization and address NRC						12. Technical contact(s) and phone Rose Byrne 301-504-4668		
13. Narrative See attachment. <i>NOTE: Provided by R. BYRNE AT NRC. This was not used by The CNWRA. BSM 12/31/98</i>								
14. Keywords JPA, LHS, Quality Control, SPLUS, FORTRAN								
15. Computer manufacturer and model			16. Computer operating system			17. Programming language(s) FORTRAN		18. Number of source program statements 146
19. Computer memory requirements Virtual			20. Tape drives			21. Disk/Drum units		22. Terminals
23. Other operational requirements								
24. Software availability Available <input type="checkbox"/> Limited <input type="checkbox"/> In-house only <input checked="" type="checkbox"/> Active Inactive						25. Documentation availability 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

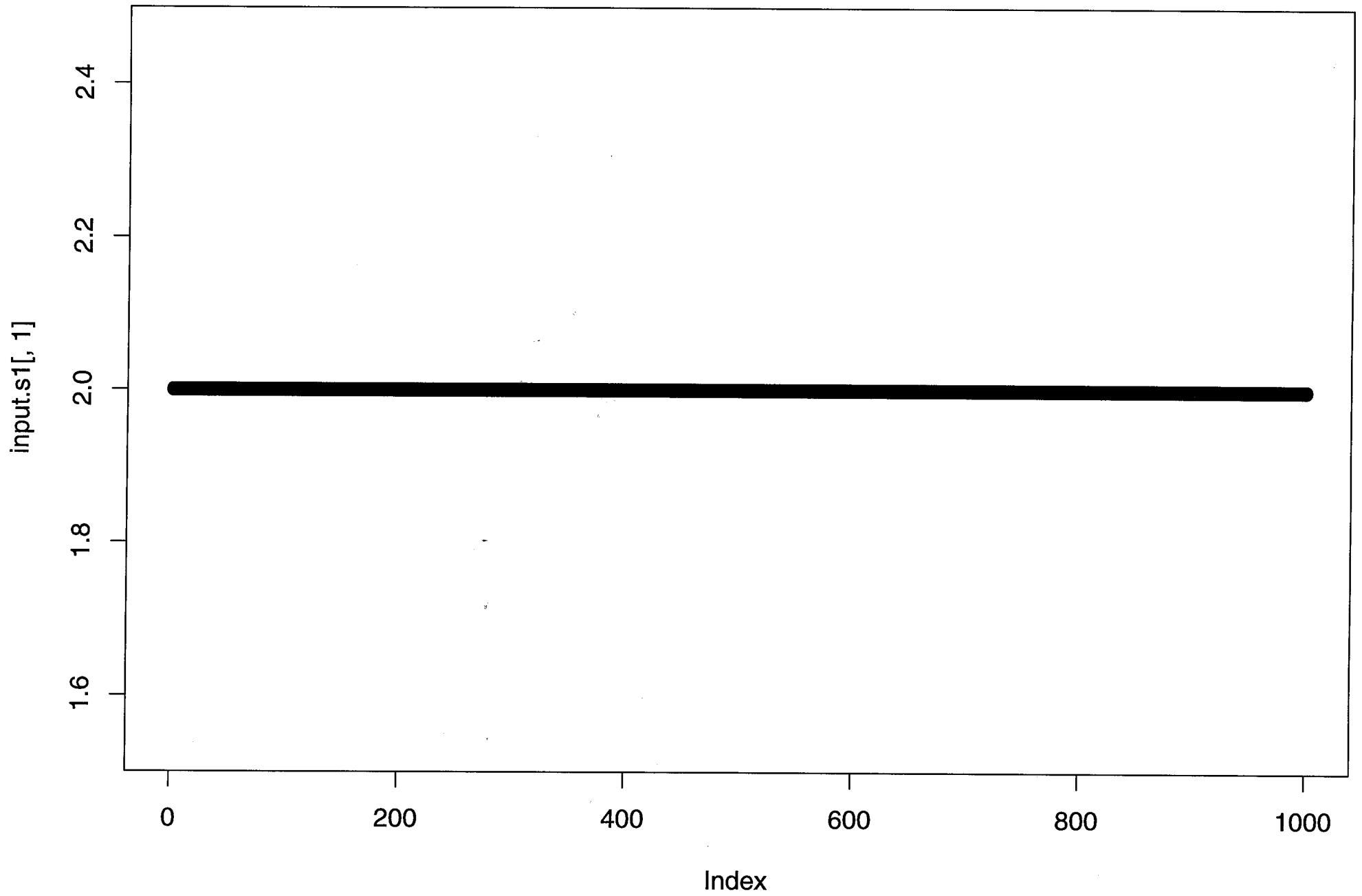
Submit queue: TCP/IP
Submitted: 155:53:31
Started: 155:53:32

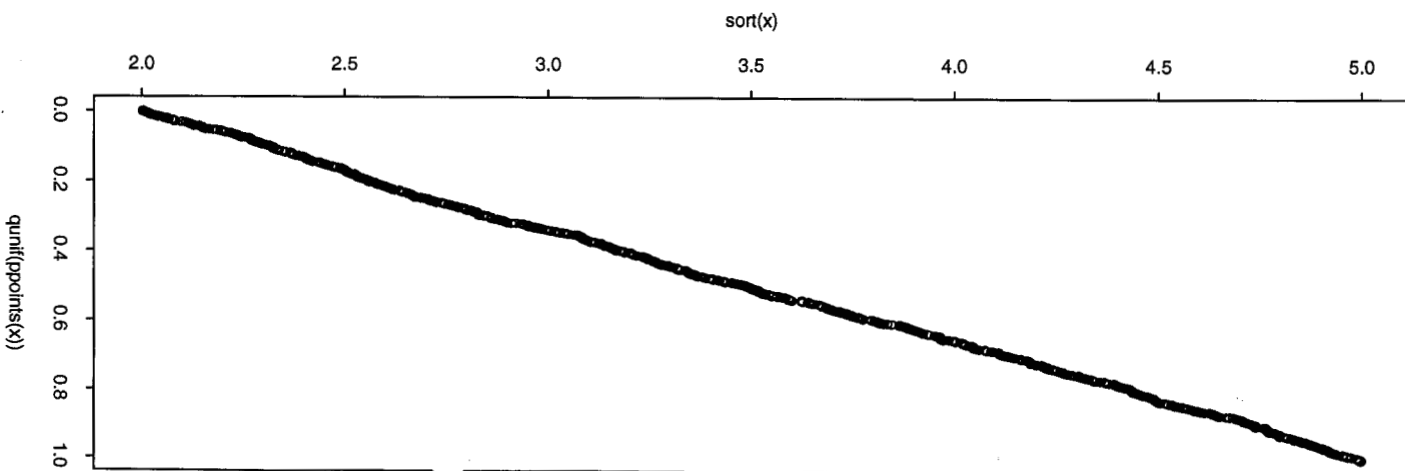
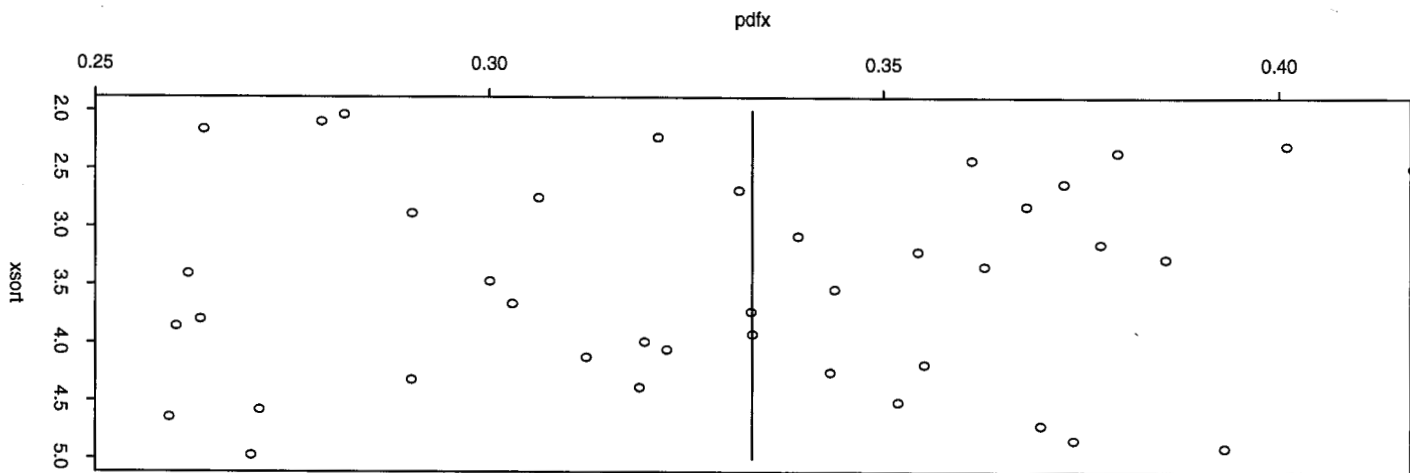
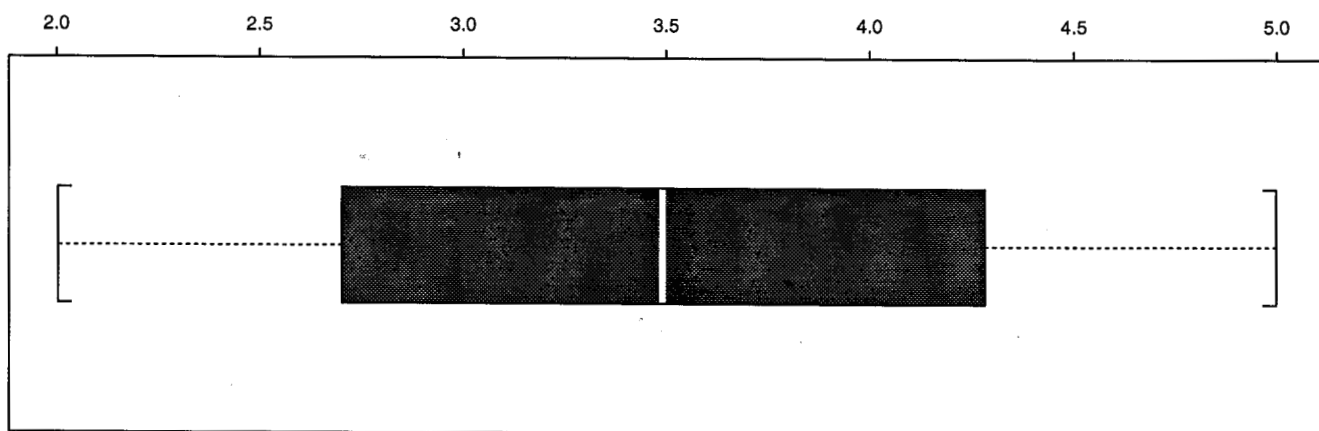
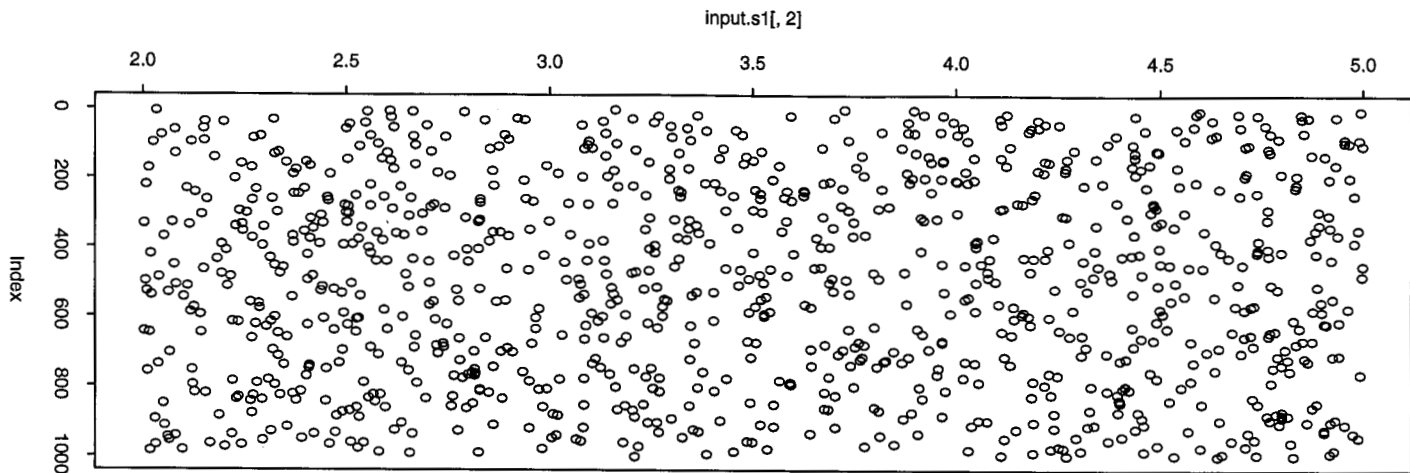


QMS-PS 1700

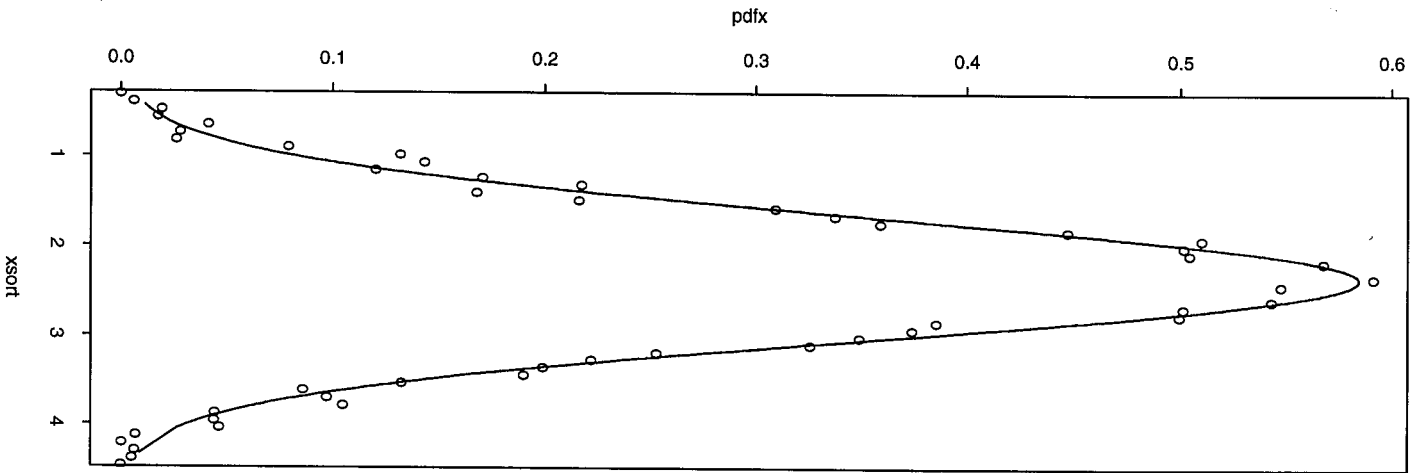
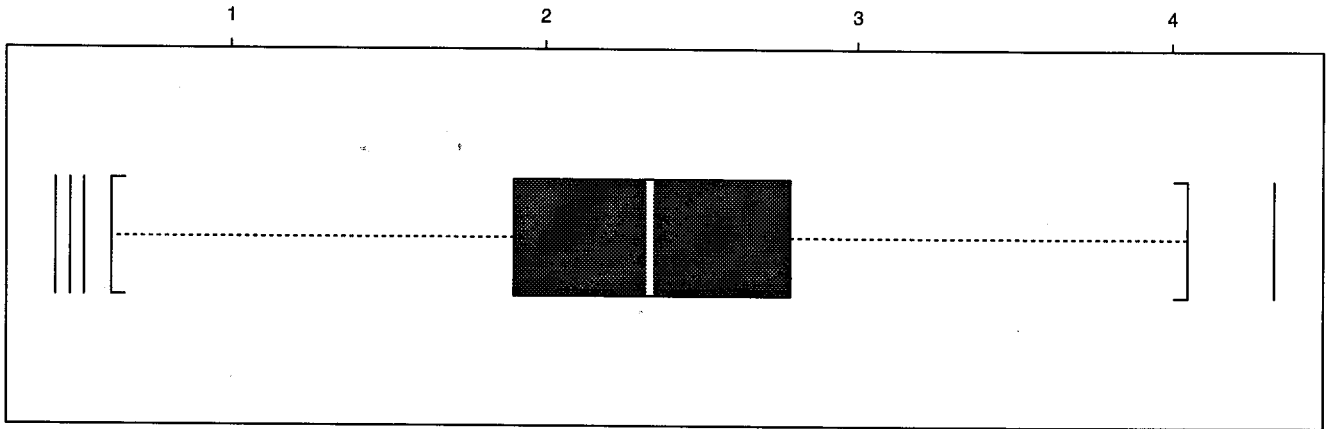
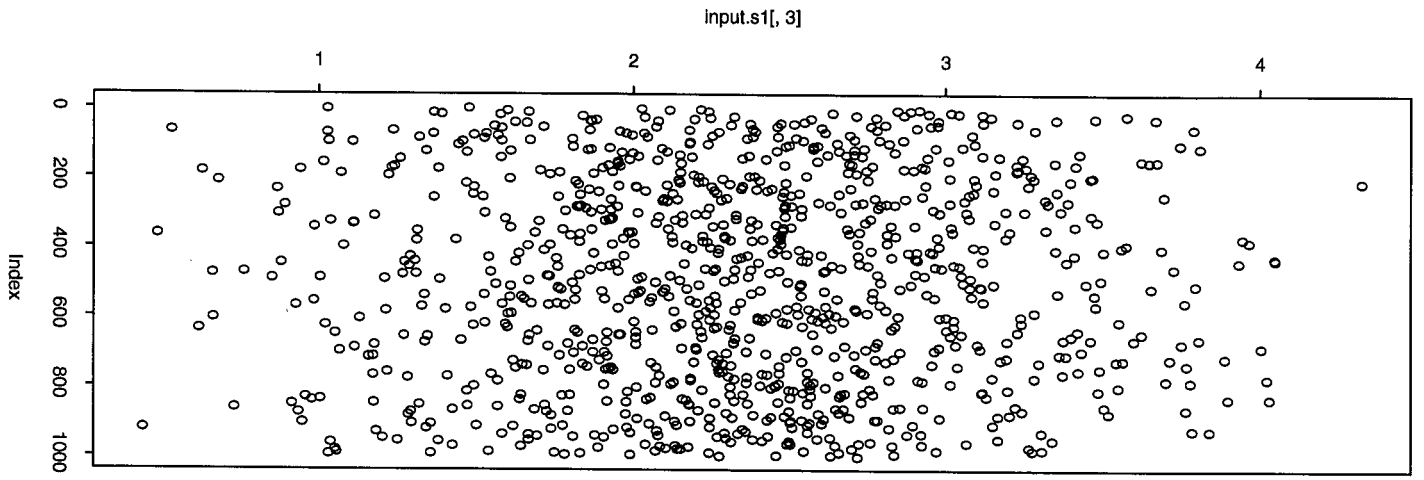
QMS-PS 1700

Constant Distribution

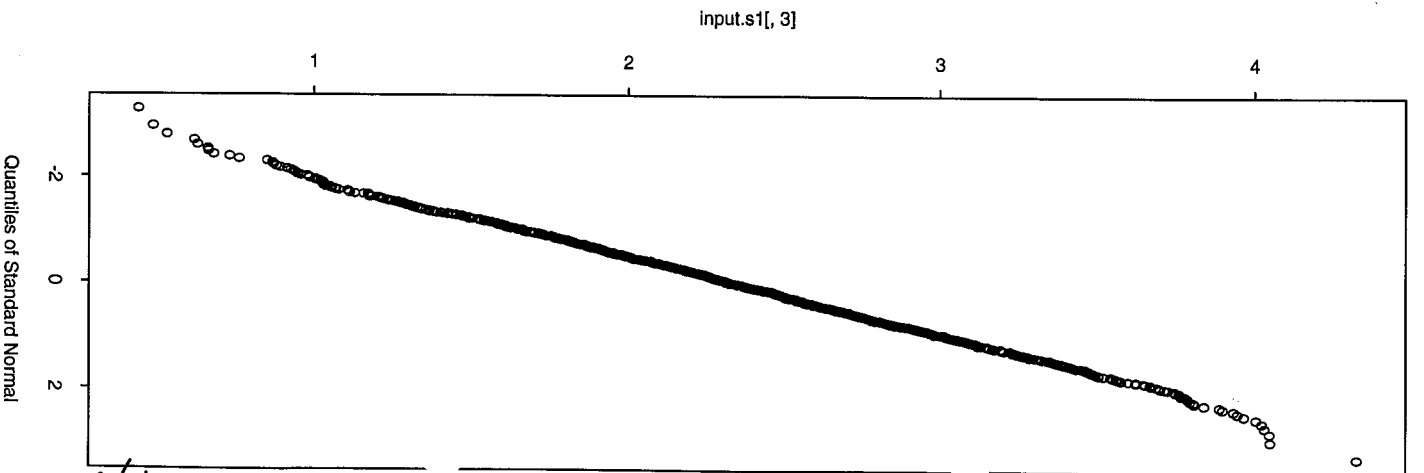




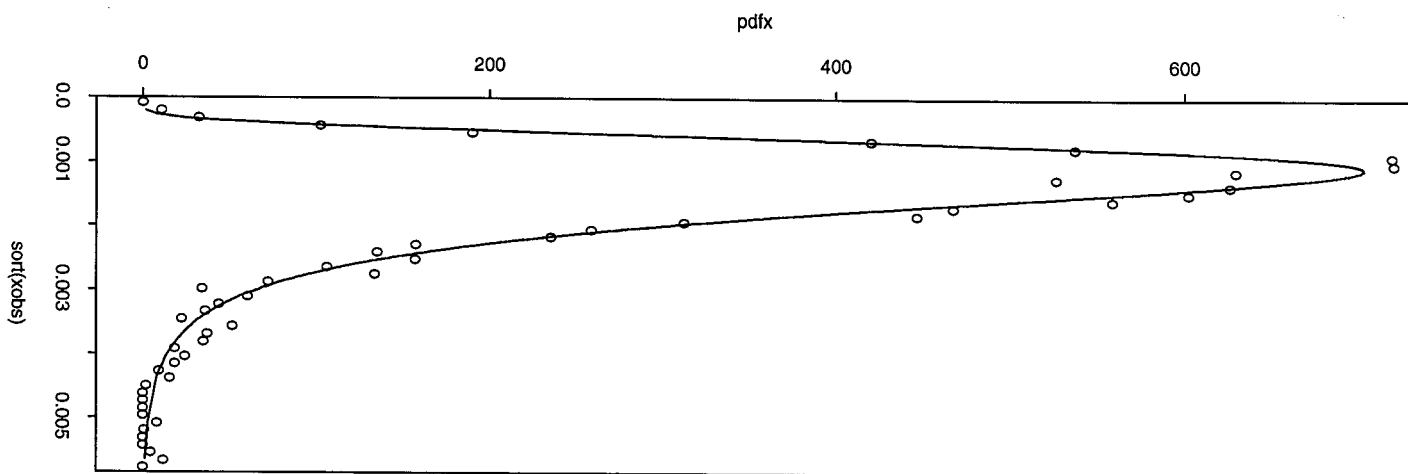
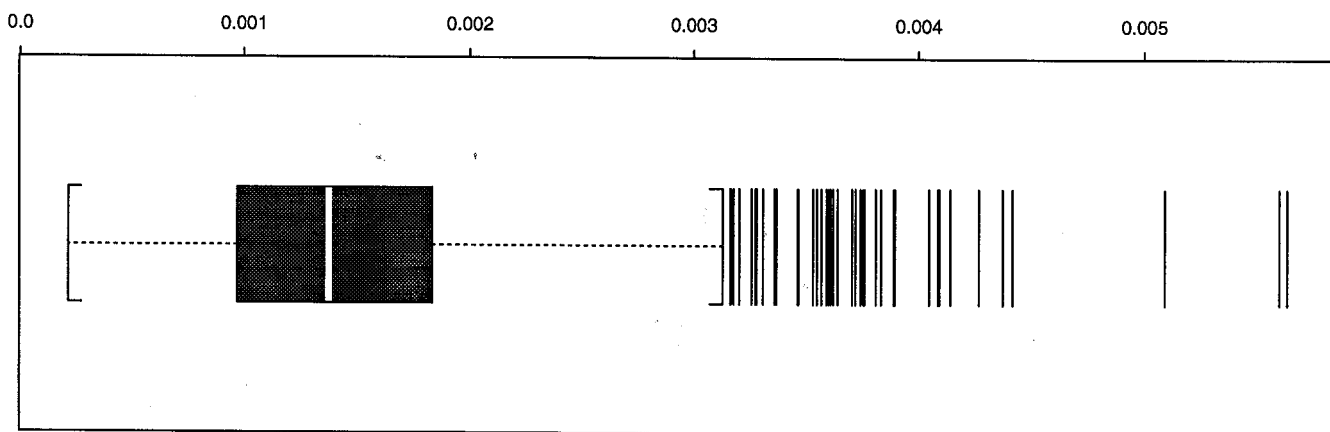
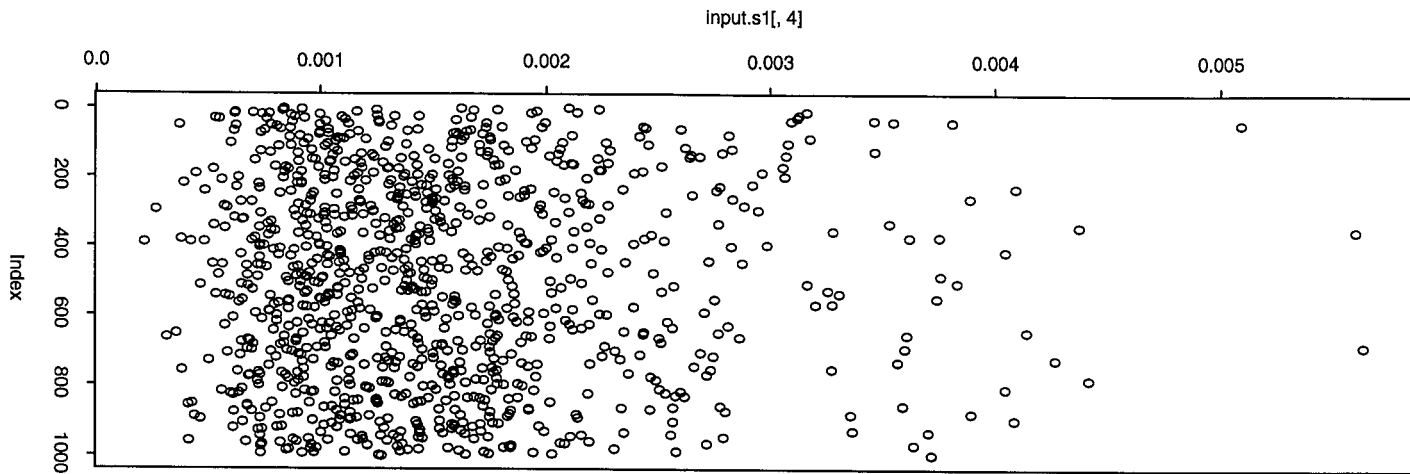
Uniform Distribution



Normal Distribution



8/6



Lognormal Distribution

