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Handout01:

JMP Software

SAS Software

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Introduction to JMP

www.jmp.com/en_us/software/predictive-analytics-software.html

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jmp Statistical Discovery.™ From SAS.

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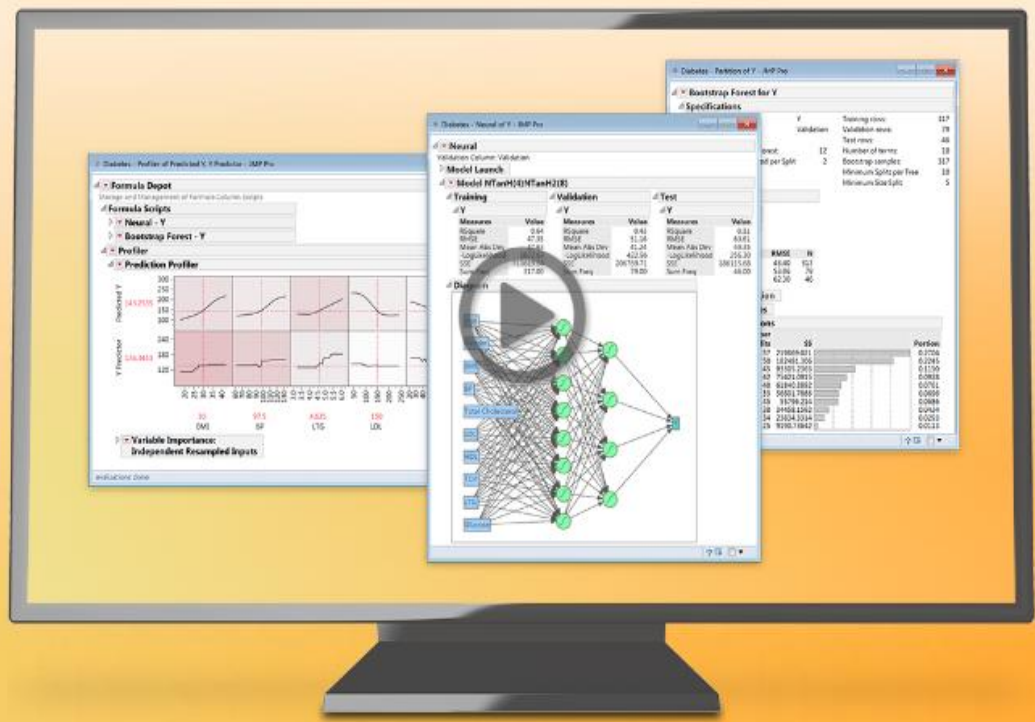
JMP® Pro

Predictive analytics software for scientists and engineers

As the pro version of JMP statistical discovery software, JMP Pro goes to the next level by offering all the capabilities of JMP plus advanced features for more sophisticated analysis including predictive modeling and cross-validation techniques. Users can harness the power and speed of the supercomputer on their desk to explore and understand data in an easy-to-use interface.

Request an evaluation of JMP Pro



Have a minute? See the power of JMP Pro.

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Introduction to JMP

- Open the existing data
- Change the data types
- Data organization (stack, split,….)
- Type the data
- Some of the basic procedures
  - Analyze-Distribution
  - Analyze-Fit Y by x
  - Analyze-Fit model
  - DOE-sample size and power
  - DOE-custom design
  - DOE-full factorial design

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SAS

http://www.tutorialspoint.com/sas/

http://support.sas.com/documentation/cdl/en/basess/68381/PDF/default/basess.pdf

http://support.sas.com/kb/33/486.html

If there are other sites that you like, do not hesitate to post for your classmates.

Introduction to SAS

- Port-wine stains are congenital vascular malformations that occur in an estimated 3 children per 1,000 births. One hundred patients, 31 years of age or younger, with a previously untreated port-wine stain were selected for inclusion in the study.
- During the first consultation, the extent and location of the port-wine stain were recorded. Four age groups of 25 patients each were determined for evaluating whether the laser treatment was more effective for younger patients.

Variable	n	Mean	Standard deviation
0-5 years	21	4.999	3.916
6-11 years	24	7.224	3.564
12-17 years	21	7.76	5.46
18-31 years	23	5.682	4.147

Introduction to SAS

```
data simulationpopn;
input mean std n;
pop_id=_n_;
datalines;
4.999 3.916 21
7.224 3.564 24
7.760 5.460 21
5.682 4.147 23
;
run;
proc print;
run;
data simulationpopn;
set simulationpopn;
do i=1 to n;
y=mean+rannor(0)*std;
output;
end;
run;
proc print;
run;
```

***This will create 89 observations for y

The SAS System

Obs	mean	std	n	pop_id
1	4.999	3.916	21	1
2	7.224	3.564	24	2
3	7.760	5.460	21	3
4	5.682	4.147	23	4

The SAS System

Obs	mean	std	n	pop_id	i	y
1	4.999	3.916	21	1	1	-3.8569
2	4.999	3.916	21	1	2	11.1073
3	4.999	3.916	21	1	3	-1.1045
4	4.999	3.916	21	1	4	-2.5783
5	4.999	3.916	21	1	5	2.4840
6	4.999	3.916	21	1	6	6.5042
7	4.999	3.916	21	1	7	6.3635
8	4.999	3.916	21	1	8	2.4604
9	4.999	3.916	21	1	9	3.5472
10	4.999	3.916	21	1	10	3.4006
11	4.999	3.916	21	1	11	1.4007
12	4.999	3.916	21	1	12	3.2970

Introduction to SAS

```
data twowayfactorial;
input drug disease$ mean std n;
datalines;
1 A 120 0.84 10
1 B 160 1.47 8
1 C 125 1.12 11
2 A 135 0.84 11
2 B 150 0.85 10
2 C 125 1.02 9
3 A 140 0.63 10
3 B 140 0.54 10
3 C 125 0.77 10
4 A 150 1.07 8
4 B 130 0.77 10
4 C 125 0.88 10
;
run;
data simulatetwoway;
set twowayfactorial;
do k=1 to n;
y=mean+std*rannor(0);
output;
end;
run;
```

***This will create 117 observations for y

The SAS System

Obs	drug	disease	mean	std	n	k	y
1	1	A	120	0.84	10	1	120.519
2	1	A	120	0.84	10	2	118.854
3	1	A	120	0.84	10	3	119.923
4	1	A	120	0.84	10	4	120.227
5	1	A	120	0.84	10	5	119.843
6	1	A	120	0.84	10	6	119.171
7	1	A	120	0.84	10	7	120.471
8	1	A	120	0.84	10	8	119.820
9	1	A	120	0.84	10	9	118.110
10	1	A	120	0.84	10	10	120.713
11	1	B	160	1.47	8	1	161.909
12	1	B	160	1.47	8	2	163.492
13	1	B	160	1.47	8	3	159.717
14	1	B	160	1.47	8	4	160.050
15	1	B	160	1.47	8	5	159.767
16	1	B	160	1.47	8	6	158.932
17	1	B	160	1.47	8	7	157.671
18	1	B	160	1.47	8	8	163.089
19	1	C	125	1.12	11	1	123.475
20	1	C	125	1.12	11	2	124.436