Ch1-Ex1 - Memory: Recall of words by 24 adults after delayed interval of 5 minutes.

```
 * Encoding: UTF-8.
DATA LIST FREE / mem.
BEGIN DATA
 28  36  26  26  31  27  34  30  25  32  27  31
 31  32  30  30  32  29  31  34  24  26  29  28
END DATA.

*1 LIST.

*2.
FREQUENCIES mem / HISTOGRAM.
```

(omitted)

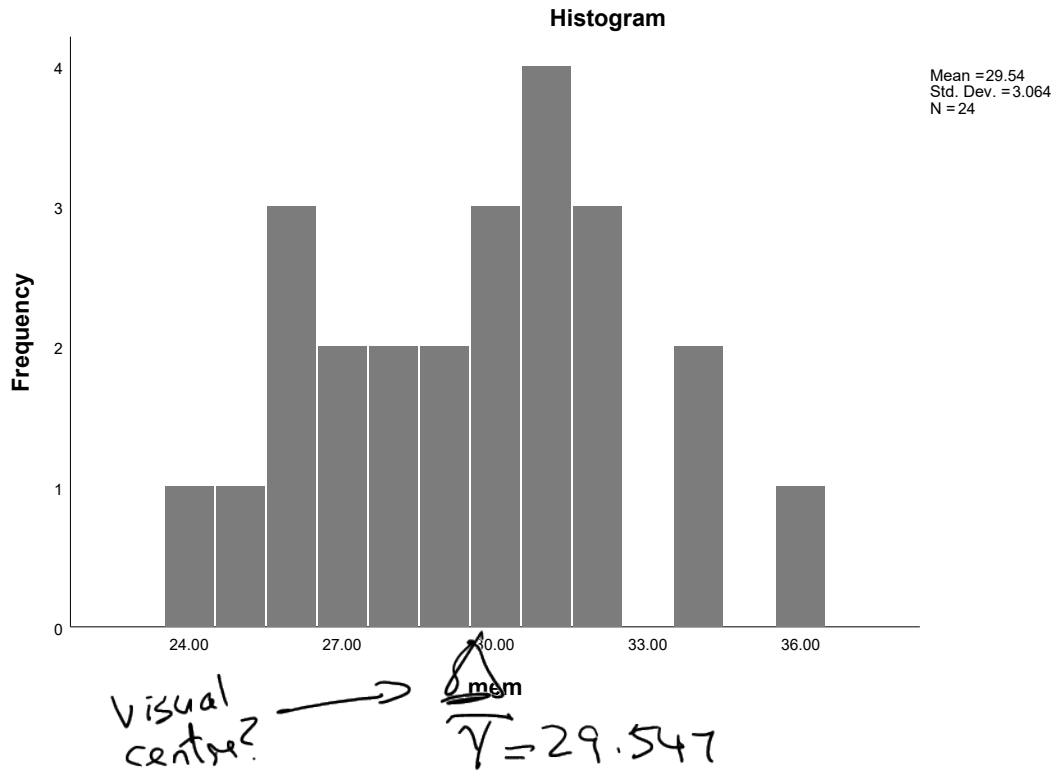
Statistics

mem

N	Valid	24
	Missing	0

mem

	mem	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	24.00	1	4.2	4.2	4.2
	25.00	1	4.2	4.2	8.3
	26.00	3	12.5	12.5	20.8
	27.00	2	8.3	8.3	29.2
	28.00	2	8.3	8.3	37.5
	29.00	2	8.3	8.3	45.8
	30.00	3	12.5	12.5	58.3
	31.00	4	16.7	16.7	75.0
	32.00	3	12.5	12.5	87.5
	34.00	2	8.3	8.3	95.8
	36.00	1	4.2	4.2	100.0
	Total	24	100.0	100.0	




```
*3.
DESCRIPTIVES mem /STAT = SUM.
```

$\Sigma Y = 709$

$\bar{Y} = \frac{709}{24} = 29.5417$

Descriptive Statistics

	N	Sum
mem	24	709.00
Valid N (listwise)	24	

```
*4.
COMPUTE memdev = mem - 29.5417.
COMPUTE mem29 = mem - 29.
COMPUTE mem30 = mem - 30.

DESCR memdev mem29 mem30 /STAT = SUM.
```

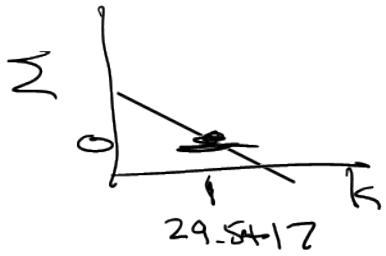
$Y - \bar{Y}$

Descriptive Statistics

	N	Sum
memdev	24	.00
mem29	24	13.00
mem30	24	-11.00
Valid N (listwise)	24	

$\Sigma(y-\bar{y})=0$

$\Sigma \neq 0$




```
 *5.
COMPUTE memdev2 = memdev**2.
COMPUTE mem292 = mem29**2.
COMPUTE mem302 = mem30**2.

DESCR memdev2 TO mem302 /STAT = SUM.
```

$(y-\bar{y})^2$

Descriptive Statistics

	N	Sum
memdev2	24	215.96
mem292	24	223.00
mem302	24	221.00
Valid N (listwise)	24	

$SS=\Sigma(y-\bar{y})^2=MIN$

$>SS$

$df=n-1$

- given $\bar{y}$, one score not free to vary
- $Var(s^2)=\sigma^2$

$s^2=\frac{SS}{n-1}=\frac{215.96}{24-1}=9.3896$

$s=\sqrt{s^2}=3.0642$

```
 *6&7.
DESCR mem.
```

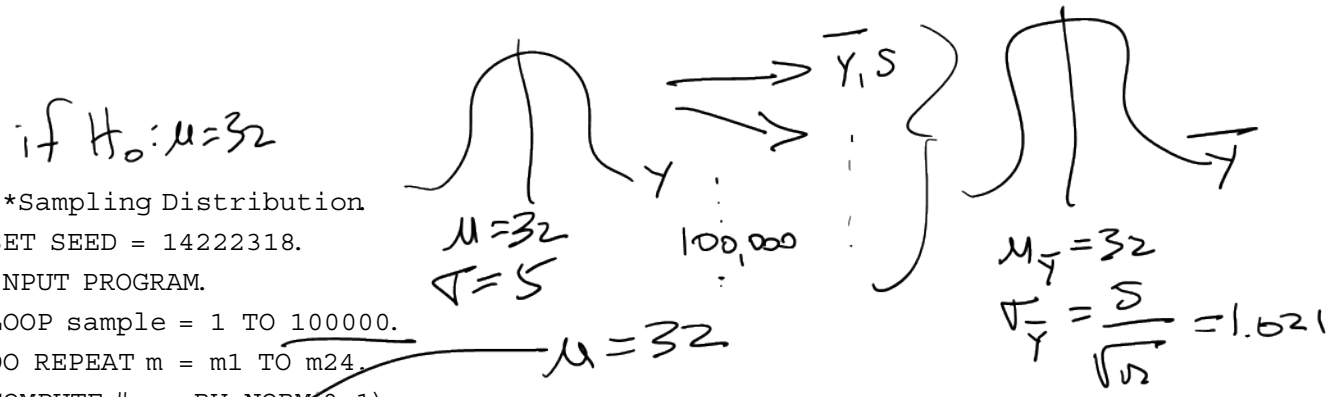
Descriptive Statistics $\bar{y}$ s

	N	Minimum	Maximum	Mean	Std. Deviation
mem	24	24.00	36.00	29.5417	3.06423
Valid N (listwise)	24				

$SS=(24-1)3.0642^2$

$=23\times 9.3896$

$=215.96$




```
 *Sampling Distribution.
SET SEED = 14222318.
INPUT PROGRAM.
LOOP sample = 1 TO 100000.
DO REPEAT m = m1 TO m24.
COMPUTE #a = RV.NORM(0,1).
*COMPUTE m = RND(32+5*(-.707107*#a + .707107*RV.NORM(0,1))).
COMPUTE m = 32+5*(-.707107*#a + .707107*RV.NORM(0,1)).
END REPEAT.
END CASE.
END LOOP.
END FILE.
END INPUT PROGRAM.

COMPUTE mnmem = MEAN(m1 TO m24).
FORMAT mnmem (F8.5).
FREQ mnmem /FORM = NOTABLE /HIST.
```