**Control 2 Grupo A-1. 2019. Nombre………………………………………………………………………………………………………….**

1. Indicarme el contenido del conjunto de datos SAS A:

| **x** | **y** | **z** |
| --- | --- | --- |
| 121 | 7324 | 324 |
| 27 | 14 | 4 |

 Data A;

Input x y @6 z ; Cards;

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | 2 | 1 |  | 7 | 3 | 2 | 4 |
| 2 | 7 |  |  | 1 | 4 |  | 5 |

1. Indicar el contenido del conjunto de datos B

Data B;

Input provincia $ x @ ;

| **provincia** | **x** | **i** | **z1** | **z2** |
| --- | --- | --- | --- | --- |
| Avila | 2 | 1 | 34 | 33 |
| Avila | 2 | 2 | . | 3 |

 Do i=1 to x;

 Input z1 z2;

 Output;

End;

Cards;

Avila 2 34 33 21 45 67

León 3 21 23 12 33 32 12 23 34 15 16 17

1. A partir de los conjuntos de datos SAS A y B escribir el código necesario para poder crear C. Teneis que utilizar sentencia Merge o sentencia Set.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|

|  |
| --- |
| A |
| Empresa | Volumen  | Ciudad |
| Telefonica | 55.6 | Madrid |
| Iberdrola  | 10.2 | Bilbao |
| Banco Sabadell | 7.3 | Valencia |

 |

|  |
| --- |
| B |
| Empresa | Empleados |
| Iberdrola | 18000 |
| Sanitas | 15000 |
| Telefonica | 200000 |

 |

|  |
| --- |
| C |
| Empresa | Volumen  | Empleados |
| Iberdrola | 10.2 | 18000 |
| Telefonica | 55.6 | 200000 |
|  |  |  |

 |

Proc sort data=A; by empresa; proc sort data=b; by empresa ; run;

Data C; merge A (in=zz) B (in=ww); by empresa;

If zz\*ww=1 then output;

Drop ciudad;

Run;

1. Dado el conjunto de datos A del ejercicio 3 se pide indicar cuál sería el conjunto de datos C

Data C;

| **Empresa** | **Volumen** | **Ciudad** |
| --- | --- | --- |
| Banco Sabadell | 7.3 | Valencia |

 Do j=1,3;

 Set A point=j;

End; output;

Stop; drop j; run;

1. Escribir el conjunto de datos C:

Data C;

Infile cards n=3 ;

Input x1 x2 7-9 / z1 z2 / w1 @5 x2;

Cards;

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | 2 | 1 |  | 7 | 3 | 2 | 4 |  | 2 | 1 |
| 2 | 7 |  |  | 1 | 4 |  | 5 | 1 | 7 |  |
| 1 |  | 3 |  | 4 |  |  | 5 | 3 | 2 |  |
| 1 | 7 | 3 |  | 3 | 2 | 1 |  | 3 | 2 |  |
| 3 | 3 | 1 | 2 | 3 | 4 | 3 |  | 1 | 2 | 1 |
| 3 | 3 |  | 3 | 2 | 1 |  | 3 | 2 | 3 |  |

 |

| **x1** | **x2** | **z1** | **z2** | **w1** |
| --- | --- | --- | --- | --- |
| 121 | 4 | 27 | 14 | 1 |
| 173 | 21 | 3312343 | 121 | 33 |

 |

1. Escribir el conjunto de datos A

| **x** | **y** | **z** |
| --- | --- | --- |
| 34 | 21 | 7 |
| 2 | 11 | . |
| 5 | . | . |
| 3 | 4 | . |
| 2 | . | . |

Data A;

Infile cards missover;

Input x y z;

Cards;

34 21 7

2 11

5

3 4

2

1. Escribir el contenido del conjunto de datos B

Data B;

| **x** | **y** | **z** |
| --- | --- | --- |
| 1 | . | . |
| 2 | 0 | 1 |
| 3 | 1 | 2 |

Do x=1 to 3;

 Y=z-1;

 Output;

 Z=x;

End; run;

1. Escribir el contenido del conjunto de datos A

Data A;

Input x y;

| **x** | **y** |
| --- | --- |
| 3 | 4 |
| 3 | 3 |
| 3 | 2 |
| 6 | 2 |

Do Until (y<x);

 y=y-1;

 Output;

 End;

Cards;

3 5

6 3

1. Si el conjunto de datos pp contiene información de la población de cada provincia de España (variable población) por sexo (variable sexo), la comunidad a la que pertenece la provincia . Se pide escribir el código que permita crear un conjunto de datos C guardado en la carpeta E:\salvaje que contenga la población total por sexo de cada comunidad. Se indica el contenido de una de las observaciones:

|  |  |  |  |
| --- | --- | --- | --- |
| Provincia | Comunidad | Sexo | poblacion |
| Jaén | Andalucía | Varón | 347987 |

Libname e ‘e:\salvaje’;

Proc means data=pp nway;

Class comunidad sexo;

Output out=e.c sum=;

Var poblacion;

Run ;

1. Escribir la sentencia que permita calcular la probabilidad de que una variable aleatoria que se distribuye como una exponencial de media 5 sea mayor que 2 y menor que 4.

P=cdf(‘exponential’,4,5)- cdf(‘exponential’,2,5);

**Control 2 Grupo A-2. 2019. Nombre………………………………………………………………………………………………………….**

1. Indicarme el contenido del conjunto de datos SAS A:

| **x** | **y** | **z** | **w** |
| --- | --- | --- | --- |
| 21 | 7324 | 21 | 1 |
| 7 | 14 | 7 | 1 |

Data A; Input x 2-3 y @2 z ;

If x<z+y then w=1;

Cards;

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | 2 | 1 |  | 7 | 3 | 2 | 4 |
| 2 | 7 |  |  | 1 | 4 |  | 5 |

1. Escribir el código necesario para que a partir del fichero A.txt que se encuentra en la carpeta e:\salvaje se pueda obtener el conjunto de datos B.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Fichero A: Avila 2 34 33 León 3 21 23 12 Data b; Infile ‘e:\salvaje\a.txt’; Input provincia $ n\_juzgados @; Do juzgados=1 to n\_juzgados;  Input casos @;  Output; End; Run; |

|  |
| --- |
| B |
| Provincia | N\_Juzgados | Juzgado | Casos |
| Avila | 2 | 1 | 34 |
| Avila | 2 | 2 | 33 |
| León | 3 | 1 | 21 |
| León | 3 | 2 | 23 |
| León | 3 | 3 | 12 |

 |

1. A partir de los conjuntos de datos A y B, escribir el conjunto de datos C

Data C; set A B; run;

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|

|  |
| --- |
| A |
| Empresa | Volumen  | Ciudad |
| Telefonica | 55.6 | Madrid |
| Iberdrola  | 10.2 | Bilbao |
| Banco Sabadell | 7.3 | Valencia |

 |

|  |
| --- |
| B |
| Empresa | Empleados |
| Iberdrola | 18000 |
| Sanitas | 15000 |
| Telefonica | 200000 |

 |

|  |
| --- |
| C |
| Empresa | Volumen  | Ciudad | Empleados |
| Telefonica | 55.6 | Madrid |  . |
| Iberdrola  | 10.2 | Bilbao |  .  |
| Banco Sabadell | 7.3 | Valencia |  . |
| Iberdrola | . |  | 18000 |
| Sanitas | . |  | 15000 |
| Telefonica | . |  | 200000 |

 |
|  |  |  |

1. Dado el conjunto de datos A del ejercicio 3 se pide indicar cuál sería el conjunto de datos C:

Data C;

| **Volumen** | **Ciudad** | **z** | **X** |
| --- | --- | --- | --- |
| 55.6 | Madrid | . | 0 |
| 10.2 | Bilbao | 1 | 2 |
| 7.3 | Valencia | 1 | 4 |

 Set A end=pepe;

 Drop empresa; retain z;

 Output;

 Z=pepe+1;

 X+2;

Run;

1. Escribir el conjunto de datos C:

Data C;

Infile cards n=2 ;

Input x1 4-6 x2 7-9 @1 z / z1 z2 8-10 ;

Cards;

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 2 | 3 |   |  | 7 | 3 | 2 | 4 |  | 2 | 1 |
| 2 | 7 |  |  | 1 | 4 |  | 5 | 1 | 7 |  |
| 1 |  | 3 |  | 4 |  |  | 5 | 3 | 2 |  |
| 1 | 7 | 3 |  | 3 | 2 | 1 |  | 3 | 2 |  |
| 3 | 3 | 1 | 2 | 3 | 4 | 3 |  | 1 | 2 | 1 |
| 3 | 3 |  | 3 | 2 | 1 |  | 3 | 2 | 3 |  |

 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **X1** | **X2** | **Z** | **Z1** | **Z2** |
| 73 | 24 | 23 | 27 | 517 |
| 4 | 53 | 1 | 173 | 32 |
| 234 | . | 3312343 | 33 | 323 |

 |

1. Escribir el conjunto de datos A

Data A;

Infile cards stopover;

Input x y z;

|  |  |  |
| --- | --- | --- |
| **X** | **Y** | **Z** |
| 34 | 21 | 7 |

Cards;

34 21 7

2 11

5

3 4

2

1. Escribir el contenido del conjunto de datos B

Data B;

|  |  |  |
| --- | --- | --- |
| **X** | **Y** | **Z** |
| 1 | . | . |
| 2 | 0 | 1 |
| 3 | 1 | 2 |

Do x=1 to 3;

 Y=z-1;

 Output;

 Z=x;

End; run;

1. Escribir el contenido del conjunto de datos A

Data A;

Input x y z ;

Do while (z>x);

|  |  |  |
| --- | --- | --- |
| **X** | **Y** | **Z** |
| 3 | 5 | 5 |
| 3 | 5 | 4 |
| 3 | 5 | 3 |

 Z=z-1;

 Output;

 End;

Cards;

3 5

6 3

1. Si el conjunto de datos pp contiene información de la población por sexo de Jaén entre 1970 y 2015. Se pide escribir el código que permita representar gráficamente la evolución de la población (eje y) según el año (eje x) para cada sexo. Es decir una figura con dos curvas una que nos permite ver la evolución de la población masculina y otra con la evolución de la población femenina.

|  |  |  |  |
| --- | --- | --- | --- |
| Provincia | Year | Sexo | Población |
| Jaén | 1970 | Varón | 347987 |
| Jaén | 1971 | Varón | 346189 |
| …. | …. | …. | …. |

SYMBOL I=J;

PROC GPLOT DATA=PP;

 PLOT POBLACION\*YEAR=SEXO;

RUN;

1. Escribir la sentencia que permita calcular la probabilidad de que una variable aleatoria binomial de parámetros n=7 y p=0.4 sea mayor que 5

P=1-CDF(‘BINOMIAL’,5,0.4,7);

**Control 2 Grupo B-1. 2019. Nombre……………………………………………………………………………………………………….**

1. Indicarme el contenido del conjunto de datos SAS A:

Data A;

|  |
| --- |
| A |
| X | Y | Z |
| 121 | 7324 | 324 |
| 27 | 14 | -13 |

Input x y @6 z ;

If x>y then z=y-x;

Cards;

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | 2 | 1 |  | 7 | 3 | 2 | 4 |
| 2 | 7 |  |  | 1 | 4 |  | 5 |

1. Indicar el contenido del conjunto de datos B

Data B;

|  |
| --- |
| B |
| Provincia | X | i | Z1 | Z2 |
| Avila | 2 | 3 | . | 3 |

Input provincia $ x @ ;

Do i=1 to x;

 Input z1 z2;

End;

Cards;

Avila 2 34 33 21 45 67

León 3 21 23 12 33 32 12 23 34 15 16 17

1. A partir de los conjuntos de datos A y B escribir el código necesario para poder crear C. Utilizar sentencia Merge o sentencia Set.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|

|  |
| --- |
| A |
| Empresa | Volumen  | Ciudad |
| Telefonica | 55.6 | Madrid |
| Iberdrola  | 10.2 | Bilbao |
| Banco Sabadell | 7.3 | Valencia |

 |

|  |
| --- |
| B |
| Empresa | Empleados |
| Iberdrola | 18000 |
| Sanitas | 15000 |
| Telefonica | 200000 |

 |

|  |
| --- |
| C |
| Empresa | Volumen  | Empleados |
| Iberdrola | 10.2 | 18000 |
| Telefonica | 55.6 | 200000 |
|  |  |  |

 |

Proc sort data=A; by Empresa; run; proc sort data=B; by empresa ;run;

Data C; merge A (in=s) B (in=w);

By empresa;

If s\*w=1 then output;

Drop ciudad;

run;

1. Dado el conjunto de datos A del ejercicio 3 se pide indicar cuál sería el conjunto C

|  |
| --- |
| C |
| Empresa | Volumen  | Ciudad |
| Telefonica | 55.6 | Madrid |
| Iberdrola  | 10.2 | Bilbao |

Data C;

SET a;

IF volumen<10 then volumen=10+volumen;

Where volumen >8;

Run;

1. Escribir el conjunto de datos C:

Data C;

|  |
| --- |
| **C** |
| **X1** | **X2** | **X3** | **X4** | **X5** | **X6** |
| 12 | 1 | 73 | 24 | 2 | 12 |
| 27 | . | 14 | 5 | 17 | 1 |
| 1 | 3 | 4 | 5 | 32 | . |

Input (x1-x6) (2.) ; Cards;

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | 2 | 1 |  | 7 | 3 | 2 | 4 |  | 2 | 1 | 2 | 3 |
| 2 | 7 |  |  | 1 | 4 |  | 5 | 1 | 7 | 1 |  | 3 |
| 1 |  | 3 |  | 4 |  |  | 5 | 3 | 2 |  |  |  |

1. Escribir el conjunto de datos A

Data A;

|  |
| --- |
| A |
| X | Y | Z |
| 34 | 21 | 08JAN1960 |
| 2 | 11 | 06JAN1960 |
| 3 | 4 | 03JAN1960 |

Input x y z; format z date9.;

Cards;

34 21 7

2 11

5

3 4

2

1. Escribir el contenido del conjunto de datos B

Data B;

| **X** | **Y** | **Z** |
| --- | --- | --- |
| 1 | . | . |
| 2 | 0 | 1 |
| 3 | 1 | 2 |

Do x=1 to 3;

 Y=z-1;

 Output;

 Z=x;

End;

1. Escribir el contenido del conjunto de datos A

Data A;

| **x** | **y** |
| --- | --- |
| 3 | 4 |
| 3 | 3 |
| 3 | 2 |
| 6 | 2 |

Input x y;

Do Until (y<x);

 y=y-1;

 Output;

 End;

Cards;

3 5

6 3

1. Si el conjunto de datos pp contiene información de la población de cada provincia de España (variable población) por sexo (variable sexo), la comunidad a la que pertenece la provincia . Se pide escribir el código que permita crear un conjunto de datos C guardado en la carpeta E:\salvaje que contenga la población total por sexo de cada comunidad. Se indica el contenido de una de las observaciones:

|  |  |  |  |
| --- | --- | --- | --- |
| Provincia | Comunidad | Sexo | poblacion |
| Jaén | Andalucía | Varón | 347987 |

 LIBNAME E ‘E:\SALVAJE’;

PROC MEANS DATA=PP NWAY;

 VAR POBLACION;

 CLASS SEXO COMUNIDAD;

 OUTPUT OUT=E.C SUM=;

RUN;

1. Escribir la sentencia que permita calcular el valor de x tal que se verifique: Prob( Z>x)=0.34 . Siendo Z una variable aleatoria Normal de media 4 y desviación típica 2.

X=QUANTILE(‘NORMAL’,0.66, 4, 2);

**Control 2 Grupo B-2. 2019. Nombre……………………………………………………………………………………………………….**

1. Indicarme el contenido del conjunto de datos SAS A:

Data A;

|  |
| --- |
| A |
| X | Y | Z |
| . | 324 | 324 |
| 1 | 4 | 4 |

Input x 3-5 y @6 z ;

If x>y then z=y-x;

Cards;

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | 2 | 1 |  | 7 | 3 | 2 | 4 |
| 2 | 7 |  |  | 1 | 4 |  | 5 |

1. Indicar el contenido del conjunto de datos B

| **provincia** | **z1** | **z2** |
| --- | --- | --- |
| Avila | 34 | 33 |
| Avila | 21 | 45 |
| León | 21 | 23 |
| León | 12 | 33 |
| León | 32 | 12 |

Data B;

Input provincia $ x @ ;

Do i=1 to x;

 Input z1 z2 @;

 Output;

Drop i x;

End;

Cards;

Avila 2 34 33 21 45 67

León 3 21 23 12 33 32 12 23 34 15 16 17

1. A partir de los conjuntos de datos A y B. Crear C.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|

|  |
| --- |
| A |
| Empresa | Volumen  | Ciudad |
| Telefonica | 55.6 | Madrid |
| Iberdrola  | 10.2 | Bilbao |
| Banco Sabadell | 7.3 | Valencia |

 |

|  |
| --- |
| B |
| Empresa | Empleados |
| Iberdrola | 18000 |
| Sanitas | 15000 |
| Telefonica | 200000 |

 |

Data C; merge A B; drop ciudad ; run;

|  |
| --- |
| C |
| Empresa | Volumen  | Empleados |
| Iberdrola | 55.6 | 18000 |
| Sanitas | 10.2 | 15000 |
| Telefonica | 7.3 | 200000 |

1. Dado el conjunto de datos A del ejercicio 3 se pide indicar cuál sería el conjunto C

Data C;

|  |
| --- |
| **Ciudad** |
| Madrid |
| Bilbao |
| Valencia |

SET a;

IF volumen<10 then volumen=10+volumen;

if volumen >8 ;

keep Ciudad;

Run;

1. Escribir el conjunto de datos C:

Data C;

|  |  |  |  |
| --- | --- | --- | --- |
| **X1** | **X2** | **X3** | **Z1** |
| 1.21 | 73.2 | 2.2 | 1.0 |
| 0.73 | 14.5 | . | 0.5 |
| 1.3 | 4.0 | 32.5 | 1.5 |

Input (x1-x3) (4.);

Z1=round(x1,0.5); Cards;

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | . | 2 | 1 | 7 | 3 | . | 2 |  | 2 | . | 2 | 3 |
| . | 7 | 3 |  | 1 | 4 | . | 5 | 1 | 7 |  | 3 | 3 |
| 1 | . | 3 |  | 4 |  |  |  | 3 | 2 | . | 5 |  |

1. Escribir el conjunto de datos A

Data A;

| **x** | **y** | **z** |
| --- | --- | --- |
| 0:00:34 | 3 | 7 |
| 0:00:02 | 2 | 5 |
| 0:00:03 | 1 | 2 |

Input x y z; format x time8.; y=ceil(y/10);

Cards;

34 21 7

2 11

5

3 4

2

1. Escribir el contenido del conjunto de datos B

Data B;

| **y** | **z** |
| --- | --- |
| . | . |
| 0 | 1 |

Do x=1 to 2;

 Y=z-1;

 Output; drop x;

 Z=x;

End;

1. Escribir el contenido del conjunto de datos A

Data A; rename y=ny;

Input x y;

| **x** | **ny** | **z** |
| --- | --- | --- |
| 3 | 5 | 4 |
| 3 | 4 | 3 |

Do while (y>x);

 Z=y-1;

 Output; y=y-1;

 End;

Cards;

3 5

6 3

1. Si el conjunto de datos pp contiene información de la población de la provincia de Jaen para cada año según el sexo (ver tabla conteniendo una observación). Realizar una gráfica que permita visualizar la evolución de la población a lo largo de los años para cada sexo (dos curvas para la misma figura, una para cada sexo).

|  |  |  |  |
| --- | --- | --- | --- |
| Provincia | Year | Sexo | poblacion |
| Jaén | 1970 | Varón | 347987 |

**Symbol i=j;**

**Proc gplot data=pp;**

 **Plot poblacion\*year=sexo;**

**Run;**

1. Escribir un programa que permite crear una muestra aleatoria de tamaño 100 de la binomial n=20, p=.3.

Data muestra;

 Do obs=1 to 100;

 X=rand (‘binomial’, 0.3, 20);

 Output;

End;

Run;