**Question 1**

DATA homegarden;

INFILE 'C:\Users\William Zhang\Desktop\Gardens.txt';

INPUT Name $ 1-7 Tomato Zucchini Peas Grapes;

Zone = 14;

Type = 'home';

Zucchini = Zucchini \* 10;

Total = Tomato + Zucchini + Peas + Grapes;

PerTom = (Tomato / Total) \* 100;

PROC PRINT DATA = homegarden;

TITLE 'Home Gardening Survey';

RUN;

|  |
| --- |
| **Home Gardening Survey** |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Obs** | **Name** | **Tomato** | **Zucchini** | **Peas** | **Grapes** | **Zone** | **Type** | **Total** | **PerTom** |
| **1** | Gregor | 10 | 20 | 40 | 0 | 14 | home | 70 | 14.2857 |
| **2** | Molly | 15 | 50 | 10 | 1000 | 14 | home | 1075 | 1.3953 |
| **3** | Luther | 50 | 100 | 15 | 50 | 14 | home | 215 | 23.2558 |
| **4** | Susan | 20 | 0 | . | 20 | 14 | home | . | . |

**Question 2)**

DATA contest;

INPUT Name $16. Age 3. +1 Type $1. +1 Date MMDDYY10.

(Scr1 Scr2 Scr3 Scr4 Scr5) (4.1);

TotalScore = SUM(Scr1,Scr2,Scr3,Scr4,Scr5);

AvgScore = TotalScore/5;

DayEntered = DAY(Date);

Type = UPCASE(Type);

DATALINES;

Alicia Grossman 13 c 10-28-2003 7.8 6.5 7.2 8.0 7.9

Matthew Lee 9 D 10-30-2003 6.5 5.9 6.8 6.0 8.1

Elizabeth Garcia 10 C 10-29-2003 8.9 7.9 8.5 9.0 8.8

Lori Newcombe 6 D 10-30-2003 6.7 5.6 4.9 5.2 6.1

Jose Martinez 7 d 10-31-2003 8.9 9.510.0 9.7 9.0

Brian Williams 11 C 10-29-2003 7.8 8.4 8.5 7.9 8.0

;

PROC PRINT DATA = contest;

TITLE 'Pumpkin Carving Contest';

RUN;

|  |
| --- |
| **Pumpkin Carving Contest** |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Obs** | **Name** | **Age** | **Type** | **Date** | **Scr1** | **Scr2** | **Scr3** | **Scr4** | **Scr5** | **TotalScore** | **AvgScore** | **DayEntered** |
| **1** | Alicia Grossman | 13 | C | 16006 | 7.8 | 6.5 | 7.2 | 8.0 | 7.9 | 37.4 | 7.48 | 28 |
| **2** | Matthew Lee | 9 | D | 16008 | 6.5 | 5.9 | 6.8 | 6.0 | 8.1 | 33.3 | 6.66 | 30 |
| **3** | Elizabeth Garcia | 10 | C | 16007 | 8.9 | 7.9 | 8.5 | 9.0 | 8.8 | 43.1 | 8.62 | 29 |
| **4** | Lori Newcombe | 6 | D | 16008 | 6.7 | 5.6 | 4.9 | 5.2 | 6.1 | 28.5 | 5.70 | 30 |
| **5** | Jose Martinez | 7 | D | 16009 | 8.9 | 9.5 | 10.0 | 9.7 | 9.0 | 47.1 | 9.42 | 31 |
| **6** | Brian Williams | 11 | C | 16007 | 7.8 | 8.4 | 8.5 | 7.9 | 8.0 | 40.6 | 8.12 | 29 |

**Question 3**

DATA sportscars;

INFILE 'INPC:\Users\William Zhang\Desktop\Cars.txt';

INPUT Model $ Year Make $

Seats Color $;

IF Year < 1975 THEN Status = 'classic';

IF Model = 'Corvette' OR Model = 'Camaro' THEN Make = 'Chevy';

IF Model = 'Miata' THEN DO;

Make = 'Mazda';

Seats = 2;

END;

PROC PRINT DATA = sportscars;

TITLE “Eddy’s Excellent Emporium of Used Sports Cars”;

RUN;

|  |
| --- |
| **“Eddy’s Excellent Emporium of Used Sports Cars”** |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Obs** | **Model** | **Year** | **Make** | **Seats** | **Color** | **Status** |
| **1** | Corvette | 1955 | Chevy | 2 | black | classic |
| **2** | XJ6 | 1995 | Jaguar | 2 | teal |  |
| **3** | Mustang | 1966 | Ford | 4 | red | classic |
| **4** | Miata | 2002 | Mazda | 2 | silver |  |
| **5** | CRX | 2001 | Honda | 2 | black |  |
| **6** | Camaro | 2000 | Chevy | 4 | red |  |

**Question 4)**

DATA homeimprovements;

INPUT Owner $ 1-7 Description $ 9-33 Cost;

IF Cost = . THEN CostGroup = 'missing';

ELSE IF Cost < 3000 THEN CostGroup = 'low';

ELSE IF Cost < 9000 THEN CostGroup = 'medium';

ELSE CostGroup = 'high';

DATALINES;

Bob kitchen cabinet face-lift 1253.00

Shirley bathroom addition 11350.70

Silvia paint exterior .

Al backyard gazebo 3098.63

Norm paint interior 647.77

Kathy second floor addition 75362.93

;

PROC PRINT DATA = homeimprovements;

TITLE 'Home Improvement Cost Groups';

RUN;

|  |
| --- |
| **Home Improvement Cost Groups** |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Obs** | **Owner** | **Description** | **Cost** | **CostGroup** |
| **1** | Bob kit | hen cabinet face-lift | 1253.00 | low |
| **2** | Shirley | bathroom addition | 11350.70 | high |
| **3** | Silvia | paint exterior | . | missing |
| **4** | Al | backyard gazebo | 3098.63 | medium |
| **5** | Norm | paint interior | 647.77 | low |
| **6** | Kathy | second floor addition | 75362.93 | high |

**Question 5**

**Part 1)**

DATA comedy;

INPUT Title $ 1-26 Year Type $;

IF Type = 'tragedy' OR Type = 'romance' OR Type = 'history' THEN DELETE;

DATALINES;

A Midsummer Night’s Dream 1595 comedy

Comedy of Errors 1590 comedy

Hamlet 1600 tragedy

Macbeth 1606 tragedy

Richard III 1594 history

Romeo and Juliet 1596 tragedy

Taming of the Shrew 1593 comedy

Tempest 1611 romance

;

PROC PRINT DATA = comedy;

TITLE 'Shakespearean Comedies';

RUN;

|  |
| --- |
| **Shakespearean Comedies** |

|  |  |  |  |
| --- | --- | --- | --- |
| **Obs** | **Title** | **Year** | **Type** |
| **1** | A Midsummer Night’s Dream | 1595 | comedy |
| **2** | Comedy of Errors | 1590 | comedy |
| **3** | Taming of the Shrew | 1593 | comedy |

**Part 2)**

DATA comedy;

INPUT Title $ 1-26 Year Type $;

IF Type = 'tragedy' OR Type = 'romance' THEN DELETE;

DATALINES;

A Midsummer Night’s Dream 1595 comedy

Comedy of Errors 1590 comedy

Hamlet 1600 tragedy

Macbeth 1606 tragedy

Richard III 1594 history

Romeo and Juliet 1596 tragedy

Taming of the Shrew 1593 comedy

Tempest 1611 romance

;

PROC PRINT DATA = comedy;

TITLE 'Shakespearean Comedies';

RUN;

|  |
| --- |
| **Shakespearean Comedies** |

|  |  |  |  |
| --- | --- | --- | --- |
| **Obs** | **Title** | **Year** | **Type** |
| **1** | A Midsummer Night’s Dream | 1595 | comedy |
| **2** | Comedy of Errors | 1590 | comedy |
| **3** | Richard III | 1594 | history |
| **4** | Taming of the Shrew | 1593 | comedy |

**Part 3)**

DATA comedy;

INPUT Title $ 1-26 Year Type $;

IF Type = 'tragedy';

DATALINES;

A Midsummer Night’s Dream 1595 comedy

Comedy of Errors 1590 comedy

Hamlet 1600 tragedy

Macbeth 1606 tragedy

Richard III 1594 history

Romeo and Juliet 1596 tragedy

Taming of the Shrew 1593 comedy

Tempest 1611 romance

;

PROC PRINT DATA = comedy;

TITLE 'Shakespearean Comedies';

RUN;

|  |
| --- |
| **Shakespearean Comedies** |

|  |  |  |  |
| --- | --- | --- | --- |
| **Obs** | **Title** | **Year** | **Type** |
| **1** | Hamlet | 1600 | tragedy |
| **2** | Macbeth | 1606 | tragedy |
| **3** | Romeo and Juliet | 1596 | tragedy |

**Question 6**

DATA Students;

INPUT Name $ Exam1 Exam2 Exam3;

Average = (Exam1 + Exam2 + Exam3)/3;

DATALINES;

Joe 75 86 90

Mary 88 88 97

Jim 65 75 100

Jane 74 98 76

Mike 89 88 90

Sue 30 80 60

;

PROC SORT DATA = Students;

BY DESCENDING Average;

RUN;

PROC PRINT DATA = Students;

TITLE 'Ranking from Three Exams';

RUN;

|  |
| --- |
| **Ranking from Three Exams** |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Obs** | **Name** | **Exam1** | **Exam2** | **Exam3** | **Average** |
| **1** | Mary | 88 | 88 | 97 | 91.0000 |
| **2** | Mike | 89 | 88 | 90 | 89.0000 |
| **3** | Joe | 75 | 86 | 90 | 83.6667 |
| **4** | Jane | 74 | 98 | 76 | 82.6667 |
| **5** | Jim | 65 | 75 | 100 | 80.0000 |
| **6** | Sue | 30 | 80 | 60 | 56.6667 |