### **Valeurs tests**

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| Nom de la table            | TPCAH.KEHR70FL_C                                      | Observations            | 47  |
|----------------------------|---|-------------------------|-----|
| Type de membre             | DATA  | Variables               | 17  |
| Moteur                     | V9  | Index                   | 0   |
| Créée                      | 17/11/2016 22:40:16                                   | Longueur d'observation  | 152 |
| Dernière modification      | 17/11/2016 22:40:16                                   | Observations supprimées | 0   |
| Protection                 |   | Compressée              | NO  |
| Type de table              |   | Triée                   | NO  |
| Libellé                    |   |                         |     |
| Représentation des données | SOLARIS_X86_64, LINUX_X86_64, ALPHA_TRU64, LINUX_IA64 |                         |     |
| Codage                     | utf-8 Unicode (UTF-8)                                 |                         |     |

| Informations dépendantes de la machine/de l'hôte |  |  |  |  |  |  |
|--|--|--|--|--|--|--|
| Taille de la page                                | 131072   |  |  |  |  |  |
| Nombre de pages                                  | 1  |  |  |  |  |  |
| Première page de données                         | 1  |  |  |  |  |  |
| Nb max. d'obs. par page                          | 861  |  |  |  |  |  |
| Obs. sur première page de données                | 47   |  |  |  |  |  |
| Nombre de corrections dans la table              | 0  |  |  |  |  |  |
| Nom du fichier                                   | C:\Users\Lokman\Desktop\M1 MASS COMPLET\_STATISTIQUE EXPLORATOIRE MULTIVARIE\Classification\TP Classification Hierarchique ascendante\Data\kehr70fl_c.sas7bdat |  |  |  |  |  |
| Version de création                              | 9.0401M3   |  |  |  |  |  |
| Hôte de création                                 | Linux  |  |  |  |  |  |
| Nom du propriétaire                              | lok\Lokman   |  |  |  |  |  |
| Taille du fichier                                | 256KB  |  |  |  |  |  |
| Taille de fichier (octets)                       | 262144   |  |  |  |  |  |

| Liste alphabétique des variables et des attributs |                        |       |       |         |  |  |  |  |
|---|------------------------|-------|-------|---------|--|--|--|--|
| #   | Variable               | Туре  | Long. | Libellé |  |  |  |  |
| 1   | county                 | Texte | 20    | county  |  |  |  |  |
| 12  | having_bed_f           | Num.  | 8     |         |  |  |  |  |
| 17  | having_cdplayer_f      | Num.  | 8     |         |  |  |  |  |
| 10  | having_chair_f         | Num.  | 8     |         |  |  |  |  |
| 14  | having_clock_f         | Num.  | 8     |         |  |  |  |  |
| 13  | having_cupboard_f      | Num.  | 8     |         |  |  |  |  |
| 16  | having_dvdplayer_f     | Num.  | 8     |         |  |  |  |  |
| 2   | having_electricity_f   | Num.  | 8     |         |  |  |  |  |
| 6   | having_landlinephone_f | Num.  | 8     |         |  |  |  |  |

### Valeurs tests

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| Li | Liste alphabétique des variables et des attributs |      |       |         |  |  |  |  |  |
|----|---|------|-------|---------|--|--|--|--|--|
| #  | Variable  | Туре | Long. | Libellé |  |  |  |  |  |
| 15 | having_microwave_f                                | Num. | 8     |         |  |  |  |  |  |
| 7  | having_mobilephone_f                              | Num. | 8     |         |  |  |  |  |  |
| 3  | having_radio_f                                    | Num. | 8     |         |  |  |  |  |  |
| 5  | having_refrigirator_f                             | Num. | 8     |         |  |  |  |  |  |
| 11 | having_sofa_f                                     | Num. | 8     |         |  |  |  |  |  |
| 8  | having_solarpanel_f                               | Num. | 8     |         |  |  |  |  |  |
| 9  | having_table_f                                    | Num. | 8     |         |  |  |  |  |  |
| 4  | having_television_f                               | Num. | 8     |         |  |  |  |  |  |

# 22:09 Sunday, December 17, 2017 **3 TP : Classification Ascendante Hiérarchique des counties, méthode = ward**

| Obs. | county     | having_electricity_f | having_radio_f | having_television_f | having_refrigirator_f | having_landlinephone_f |
|------|------------|----------------------|----------------|---------------------|-----------------------|------------------------|
| 1    | Nairobi    | 0.87661              | 0.74677        | 0.68871             | 0.17258               | 0.010501               |
| 2    | Nyandarua  | 0.23262              | 0.83155        | 0.36364             | 0.01872               | 0.001339               |
| 3    | Nyeri      | 0.49238              | 0.83705        | 0.54279             | 0.07042               | 0.005869               |
| 4    | Kirinyaga  | 0.33246              | 0.74707        | 0.40808             | 0.04694               | 0.002611               |
| 5    | Murang'a   | 0.33492              | 0.79976        | 0.33254             | 0.03218               | 0.001193               |
| 6    | Kiambu     | 0.67266              | 0.82854        | 0.59664             | 0.12470               | 0.004819               |
| 7    | Mombasa    | 0.76332              | 0.68204        | 0.60745             | 0.16230               | 0.007673               |
| 8    | Kwale      | 0.21170              | 0.47303        | 0.19695             | 0.07607               | 0.004155               |
| 9    | Kilifi     | 0.30886              | 0.45765        | 0.24335             | 0.07098               | 0.003817               |
| 10   | Tana River | 0.06171              | 0.37868        | 0.08696             | 0.02104               | 0.001403               |
| 11   | Lamu       | 0.36011              | 0.59684        | 0.30703             | 0.10760               | 0.005764               |

| Obs. | having_mobilephone_f | having_solarpanel_f | having_table_f | having_chair_f | having_sofa_f | having_bed_f |
|------|----------------------|---------------------|----------------|----------------|---------------|--------------|
| 1    | 0.97579              | 0.01454             | 0.90234        | 0.69355        | 0.66074       | 0.95803      |
| 2    | 0.91968              | 0.23930             | 0.92380        | 0.91979        | 0.69786       | 0.97727      |
| 3    | 0.94490              | 0.13599             | 0.95780        | 0.95311        | 0.82649       | 0.99179      |
| 4    | 0.89164              | 0.13072             | 0.89439        | 0.78879        | 0.76632       | 0.97908      |
| 5    | 0.88558              | 0.11483             | 0.94279        | 0.93087        | 0.64601       | 0.99285      |
| 6    | 0.92806              | 0.05042             | 0.93517        | 0.92206        | 0.83914       | 0.97959      |
| 7    | 0.95409              | 0.01259             | 0.77556        | 0.62735        | 0.60924       | 0.91791      |
| 8    | 0.82271              | 0.06925             | 0.65422        | 0.81189        | 0.24654       | 0.88243      |
| 9    | 0.83016              | 0.06003             | 0.69708        | 0.84304        | 0.24810       | 0.91266      |
| 10   | 0.73034              | 0.06452             | 0.35484        | 0.35484        | 0.08873       | 0.69058      |
| 11   | 0.86370              | 0.17217             | 0.64849        | 0.70445        | 0.27977       | 0.90387      |

| Obs. | having_cupboard_f | having_clock_f | having_microwave_f | having_dvdplayer_f | having_cdplayer_f |
|------|-------------------|----------------|--------------------|--------------------|-------------------|
| 1    | 0.57789           | 0.30670        | 0.11542            | 0.51251            | 0.21890           |
| 2    | 0.70281           | 0.23190        | 0.00804            | 0.20884            | 0.10977           |
| 3    | 0.76553           | 0.30012        | 0.03869            | 0.35446            | 0.22978           |
| 4    | 0.63791           | 0.22193        | 0.02876            | 0.25849            | 0.10574           |
| 5    | 0.74463           | 0.24553        | 0.01788            | 0.21812            | 0.08820           |
| 6    | 0.74880           | 0.35379        | 0.07212            | 0.41707            | 0.21609           |
| 7    | 0.43781           | 0.27591        | 0.07431            | 0.44900            | 0.25843           |
| 8    | 0.19779           | 0.13140        | 0.03320            | 0.13693            | 0.08990           |
| 9    | 0.23418           | 0.11660        | 0.02025            | 0.16456            | 0.10759           |
| 10   | 0.10098           | 0.03230        | 0.00421            | 0.06452            | 0.02805           |
| 11   | 0.34483           | 0.20000        | 0.01724            | 0.20977            | 0.09770           |

# 22:09 Sunday, December 17, 2017 **4 TP : Classification Ascendante Hiérarchique des counties, méthode = ward**

| Obs. | county       | having_electricity_f | having_radio_f | having_television_f | having_refrigirator_f | having_landlinephone_f |
|------|--------------|----------------------|----------------|---------------------|-----------------------|------------------------|
| 12   | Taita Taveta | 0.33782              | 0.64785        | 0.28629             | 0.06317               | 0.006729               |
| 13   | Marsabit     | 0.24823              | 0.32766        | 0.19149             | 0.02128               | 0.012766               |
| 14   | Isiolo       | 0.22069              | 0.38567        | 0.21488             | 0.03310               | 0.004132               |
| 15   | Meru         | 0.28808              | 0.62338        | 0.30106             | 0.04615               | 0.001182               |
| 16   | Tharaka      | 0.14670              | 0.62719        | 0.20458             | 0.01482               | 0.006729               |
| 17   | Embu         | 0.28205              | 0.72308        | 0.32564             | 0.05641               | 0.003851               |
| 18   | Kitui        | 0.11411              | 0.59387        | 0.12393             | 0.02577               | 0.002454               |
| 19   | Machakos     | 0.20595              | 0.73333        | 0.24524             | 0.02143               | 0.002387               |
| 20   | Makueni      | 0.11180              | 0.68696        | 0.15031             | 0.01244               | 0.001242               |
| 21   | Garissa      | 0.22151              | 0.29535        | 0.15620             | 0.05939               | 0.001605               |
| 22   | Wajir        | 0.18707              | 0.37755        | 0.13118             | 0.05952               | 0.003407               |

| Obs. | having_mobilephone_f | having_solarpanel_f | having_table_f | having_chair_f | having_sofa_f | having_bed_f |
|------|----------------------|---------------------|----------------|----------------|---------------|--------------|
| 12   | 0.88022              | 0.11306             | 0.84812        | 0.83199        | 0.42070       | 0.95699      |
| 13   | 0.54752              | 0.04965             | 0.39858        | 0.44255        | 0.28835       | 0.57872      |
| 14   | 0.63085              | 0.06336             | 0.61157        | 0.61846        | 0.39669       | 0.89379      |
| 15   | 0.85360              | 0.15466             | 0.85242        | 0.66194        | 0.53428       | 0.97285      |
| 16   | 0.77224              | 0.17497             | 0.80054        | 0.80728        | 0.36070       | 0.98381      |
| 17   | 0.85751              | 0.14396             | 0.89487        | 0.86026        | 0.58077       | 0.97176      |
| 18   | 0.83313              | 0.13252             | 0.85890        | 0.97423        | 0.28221       | 0.95460      |
| 19   | 0.89762              | 0.16786             | 0.92024        | 0.92381        | 0.57857       | 0.97619      |
| 20   | 0.88696              | 0.17786             | 0.89814        | 0.96522        | 0.41915       | 0.98261      |
| 21   | 0.74277              | 0.04173             | 0.42512        | 0.50562        | 0.16908       | 0.94864      |
| 22   | 0.64225              | 0.03077             | 0.38095        | 0.34014        | 0.13311       | 0.87925      |

| Obs. | having_cupboard_f | having_clock_f | having_microwave_f | having_dvdplayer_f | having_cdplayer_f |
|------|-------------------|----------------|--------------------|--------------------|-------------------|
| 12   | 0.42665           | 0.21371        | 0.02554            | 0.21237            | 0.10484           |
| 13   | 0.15177           | 0.06241        | 0.00993            | 0.07801            | 0.02128           |
| 14   | 0.26483           | 0.07034        | 0.02621            | 0.11448            | 0.07448           |
| 15   | 0.40260           | 0.13254        | 0.02834            | 0.18064            | 0.05785           |
| 16   | 0.37416           | 0.13612        | 0.00538            | 0.10229            | 0.07537           |
| 17   | 0.56282           | 0.22336        | 0.03462            | 0.20026            | 0.08205           |
| 18   | 0.29080           | 0.13374        | 0.00859            | 0.07975            | 0.04663           |
| 19   | 0.56548           | 0.28282        | 0.01786            | 0.12992            | 0.11429           |
| 20   | 0.46517           | 0.17910        | 0.00497            | 0.09441            | 0.09441           |
| 21   | 0.15249           | 0.04823        | 0.00482            | 0.06260            | 0.04976           |
| 22   | 0.07143           | 0.01190        | 0.00170            | 0.04762            | 0.03401           |

# 22:09 Sunday, December 17, 2017 **5 TP : Classification Ascendante Hiérarchique des counties, méthode = ward**

| Obs. | county      | having_electricity_f | having_radio_f | having_television_f | having_refrigirator_f | having_landlinephone_f |
|------|-------------|----------------------|----------------|---------------------|-----------------------|------------------------|
| 23   | Mandera     | 0.13777              | 0.29147        | 0.09443             | 0.03101               | 0.004651               |
| 24   | Siaya       | 0.12484              | 0.69039        | 0.18773             | 0.02497               | 0.004994               |
| 25   | Kisumu      | 0.34913              | 0.78304        | 0.36704             | 0.09102               | 0.003745               |
| 26   | Migori      | 0.07570              | 0.63936        | 0.15931             | 0.01222               | 0.002451               |
| 27   | Homa Bay    | 0.10526              | 0.66083        | 0.18296             | 0.01252               | 0.008761               |
| 28   | Kisii       | 0.28047              | 0.65680        | 0.27844             | 0.02607               | 0.000000               |
| 29   | Nyamira     | 0.21204              | 0.71351        | 0.24966             | 0.01501               | 0.001366               |
| 30   | Turkana     | 0.04082              | 0.08601        | 0.04519             | 0.01312               | 0.001458               |
| 31   | West Pokot  | 0.10856              | 0.40520        | 0.10398             | 0.00000               | 0.003058               |
| 32   | Samburu     | 0.17077              | 0.35022        | 0.13748             | 0.02171               | 0.004354               |
| 33   | Trans Nzoia | 0.22319              | 0.65960        | 0.26060             | 0.02996               | 0.002497               |

| Obs. | having_mobilephone_f | having_solarpanel_f | having_table_f | having_chair_f | having_sofa_f | having_bed_f |
|------|----------------------|---------------------|----------------|----------------|---------------|--------------|
| 23   | 0.52477              | 0.01866             | 0.52950        | 0.60217        | 0.09457       | 0.96904      |
| 24   | 0.79526              | 0.11404             | 0.93375        | 0.96754        | 0.60701       | 0.93258      |
| 25   | 0.88903              | 0.07268             | 0.93641        | 0.96010        | 0.55860       | 0.92643      |
| 26   | 0.78755              | 0.09717             | 0.91054        | 0.94492        | 0.43941       | 0.91299      |
| 27   | 0.82080              | 0.16186             | 0.94493        | 0.95995        | 0.62328       | 0.93617      |
| 28   | 0.83787              | 0.06991             | 0.95616        | 0.92071        | 0.63314       | 0.98460      |
| 29   | 0.90314              | 0.12363             | 0.96038        | 0.97131        | 0.56772       | 0.98497      |
| 30   | 0.33139              | 0.03644             | 0.16910        | 0.23761        | 0.07872       | 0.16350      |
| 31   | 0.60550              | 0.06269             | 0.72171        | 0.83945        | 0.35321       | 0.92813      |
| 32   | 0.62518              | 0.04920             | 0.37192        | 0.71925        | 0.21563       | 0.79305      |
| 33   | 0.84500              | 0.13065             | 0.89638        | 0.73750        | 0.69202       | 0.91635      |

| Obs. | having_cupboard_f | having_clock_f | having_microwave_f | having_dvdplayer_f | having_cdplayer_f |
|------|-------------------|----------------|--------------------|--------------------|-------------------|
| 23   | 0.07895           | 0.04644        | 0.00000            | 0.03411            | 0.03411           |
| 24   | 0.45044           | 0.25282        | 0.01252            | 0.08636            | 0.09262           |
| 25   | 0.46633           | 0.26467        | 0.03616            | 0.24688            | 0.18703           |
| 26   | 0.29779           | 0.11369        | 0.00489            | 0.08791            | 0.05006           |
| 27   | 0.36295           | 0.14160        | 0.01126            | 0.08135            | 0.04506           |
| 28   | 0.44260           | 0.12189        | 0.01065            | 0.17633            | 0.08876           |
| 29   | 0.48295           | 0.10656        | 0.00956            | 0.09973            | 0.03142           |
| 30   | 0.05394           | 0.01749        | 0.00146            | 0.01749            | 0.01166           |
| 31   | 0.18224           | 0.04128        | 0.00459            | 0.05505            | 0.03517           |
| 32   | 0.14038           | 0.03184        | 0.01447            | 0.09565            | 0.01887           |
| 33   | 0.41698           | 0.17419        | 0.01247            | 0.15337            | 0.10112           |

# 22:09 Sunday, December 17, 2017 **6 TP : Classification Ascendante Hiérarchique des counties, méthode = ward**

| Obs. | county         | having_electricity_f | having_radio_f | having_television_f | having_refrigirator_f | having_landlinephone_f |
|------|----------------|----------------------|----------------|---------------------|-----------------------|------------------------|
| 34   | Baringo        | 0.17800              | 0.59130        | 0.19247             | 0.01013               | 0.004342               |
| 35   | Uasin Gishu    | 0.35330              | 0.72372        | 0.35819             | 0.04034               | 0.008557               |
| 36   | Keiyo-Marakwet | 0.19502              | 0.67082        | 0.19668             | 0.00831               | 0.001383               |
| 37   | Nandi          | 0.17375              | 0.71429        | 0.24196             | 0.01544               | 0.002574               |
| 38   | Laikipia       | 0.32341              | 0.73478        | 0.37212             | 0.04743               | 0.008152               |
| 39   | Nakuru         | 0.48283              | 0.78540        | 0.43300             | 0.06556               | 0.003337               |
| 40   | Narok          | 0.16976              | 0.70136        | 0.16853             | 0.02107               | 0.002478               |
| 41   | Kajiado        | 0.52078              | 0.65974        | 0.41169             | 0.13766               | 0.009091               |
| 42   | Kericho        | 0.19945              | 0.68269        | 0.20770             | 0.03297               | 0.002751               |
| 43   | Bomet          | 0.08345              | 0.70755        | 0.13108             | 0.01348               | 0.001351               |
| 44   | Kakamega       | 0.16705              | 0.69565        | 0.25515             | 0.03436               | 0.004587               |

| Obs. | having_mobilephone_f | having_solarpanel_f | having_table_f | having_chair_f | having_sofa_f | having_bed_f |
|------|----------------------|---------------------|----------------|----------------|---------------|--------------|
| 34   | 0.70478              | 0.12899             | 0.70930        | 0.76087        | 0.43687       | 0.92899      |
| 35   | 0.89487              | 0.16034             | 0.90954        | 0.89976        | 0.63936       | 0.93513      |
| 36   | 0.77455              | 0.11096             | 0.86445        | 0.92669        | 0.56510       | 0.92788      |
| 37   | 0.82625              | 0.13256             | 0.89318        | 0.92021        | 0.59588       | 0.89447      |
| 38   | 0.88753              | 0.18293             | 0.82273        | 0.55886        | 0.64722       | 0.88633      |
| 39   | 0.89712              | 0.09677             | 0.89567        | 0.93341        | 0.62819       | 0.96120      |
| 40   | 0.83891              | 0.11677             | 0.73358        | 0.83271        | 0.35192       | 0.92813      |
| 41   | 0.88312              | 0.05859             | 0.72078        | 0.81818        | 0.55974       | 0.94805      |
| 42   | 0.83356              | 0.09066             | 0.83379        | 0.94231        | 0.40276       | 0.89546      |
| 43   | 0.83962              | 0.16285             | 0.86810        | 0.94616        | 0.41375       | 0.92867      |
| 44   | 0.85126              | 0.15235             | 0.92105        | 0.91304        | 0.53608       | 0.94960      |

| Obs. | having_cupboard_f | having_clock_f | having_microwave_f | having_dvdplayer_f | having_cdplayer_f |
|------|-------------------|----------------|--------------------|--------------------|-------------------|
| 34   | 0.30580           | 0.07692        | 0.00290            | 0.11014            | 0.07391           |
| 35   | 0.50367           | 0.21149        | 0.02812            | 0.16504            | 0.06235           |
| 36   | 0.39696           | 0.11757        | 0.00970            | 0.12172            | 0.08575           |
| 37   | 0.42600           | 0.14839        | 0.01287            | 0.12484            | 0.09536           |
| 38   | 0.58999           | 0.17886        | 0.02710            | 0.24899            | 0.06495           |
| 39   | 0.56889           | 0.19978        | 0.04783            | 0.27920            | 0.10591           |
| 40   | 0.33086           | 0.07435        | 0.01363            | 0.14374            | 0.11896           |
| 41   | 0.42987           | 0.22338        | 0.08312            | 0.33636            | 0.11558           |
| 42   | 0.37689           | 0.12672        | 0.01099            | 0.11676            | 0.09904           |
| 43   | 0.31402           | 0.08907        | 0.00270            | 0.07412            | 0.05660           |
| 44   | 0.47079           | 0.22311        | 0.01945            | 0.12586            | 0.07780           |

# 22:09 Sunday, December 17, 2017 **7 TP : Classification Ascendante Hiérarchique des counties, méthode = ward**

| Obs. | county  | having_electricity_f | having_radio_f | having_television_f | having_refrigirator_f | having_landlinephone_f |
|------|---------|----------------------|----------------|---------------------|-----------------------|------------------------|
| 45   | Vihiga  | 0.15252              | 0.73184        | 0.22884             | 0.02384               | 0.003974               |
| 46   | Bungoma | 0.12438              | 0.63547        | 0.20222             | 0.01852               | 0.009864               |
| 47   | Busia   | 0.10567              | 0.57216        | 0.17290             | 0.02062               | 0.005155               |

| Obs. | having_mobilephone_f | having_solarpanel_f | having_table_f | having_chair_f | having_sofa_f | having_bed_f |
|------|----------------------|---------------------|----------------|----------------|---------------|--------------|
| 45   | 0.83884              | 0.07190             | 0.97351        | 0.98151        | 0.55159       | 0.94709      |
| 46   | 0.81874              | 0.13333             | 0.90887        | 0.96429        | 0.44212       | 0.91739      |
| 47   | 0.79974              | 0.06323             | 0.88903        | 0.91366        | 0.57732       | 0.92258      |

| Obs. | having_cupboard_f | having_clock_f | having_microwave_f | having_dvdplayer_f | having_cdplayer_f |
|------|-------------------|----------------|--------------------|--------------------|-------------------|
| 45   | 0.60502           | 0.24306        | 0.00528            | 0.08851            | 0.07530           |
| 46   | 0.38177           | 0.15148        | 0.00739            | 0.09975            | 0.06527           |
| 47   | 0.34452           | 0.18428        | 0.00389            | 0.09419            | 0.07355           |

# La procédure CLUSTER Analyse de classification de la distance minimale de Ward

| Variable               | Moyenne | Ecart-<br>type | Skewness | Kurtosis | Bimodalité |
|------------------------|---------|----------------|----------|----------|------------|
| having_electricity_f   | 0.2568  | 0.1766         | 1.7732   | 3.5142   | 0.6167     |
| having_radio_f         | 0.6158  | 0.1684         | -1.1879  | 0.9717   | 0.5771     |
| having_television_f    | 0.2626  | 0.1411         | 1.2288   | 1.4485   | 0.5393     |
| having_refrigirator_f  | 0.0443  | 0.0402         | 1.7349   | 2.6776   | 0.6815     |
| having_landlinephone_f | 0.00427 | 0.00288        | 1.0248   | 0.6094   | 0.5373     |
| having_mobilephone_f   | 0.8074  | 0.1251         | -1.7745  | 3.8096   | 0.5914     |
| having_solarpanel_f    | 0.1046  | 0.0528         | 0.1593   | -0.5951  | 0.3927     |
| having_table_f         | 0.7840  | 0.1982         | -1.4874  | 1.3947   | 0.6982     |
| having_chair_f         | 0.8011  | 0.1885         | -1.3830  | 1.2676   | 0.6511     |
| having_sofa_f          | 0.4741  | 0.1959         | -0.3768  | -0.5823  | 0.4353     |
| having_bed_f           | 0.9086  | 0.1332         | -4.3786  | 22.2034  | 0.7939     |
| having_cupboard_f      | 0.3966  | 0.1836         | 0.0435   | -0.4346  | 0.3615     |
| having_clock_f         | 0.1590  | 0.0857         | 0.1423   | -0.7559  | 0.4164     |
| having_microwave_f     | 0.0211  | 0.0236         | 2.2635   | 5.6842   | 0.6888     |
| having_dvdplayer_f     | 0.1609  | 0.1095         | 1.4951   | 2.1013   | 0.6096     |
| having_cdplayer_f      | 0.0888  | 0.0549         | 1.4539   | 2.2803   | 0.5676     |

|    | Valeurs prop     | res de la matr | ice de corréla | tion   |
|----|------------------|----------------|----------------|--------|
|    | Valeur<br>propre | Différence     | Proportion     | Cumulé |
| 1  | 8.99925182       | 5.18937095     | 0.5625         | 0.5625 |
| 2  | 3.80988087       | 2.93793636     | 0.2381         | 0.8006 |
| 3  | 0.87194451       | 0.13941516     | 0.0545         | 0.8551 |
| 4  | 0.73252934       | 0.21984102     | 0.0458         | 0.9009 |
| 5  | 0.51268832       | 0.19930892     | 0.0320         | 0.9329 |
| 6  | 0.31337940       | 0.10913147     | 0.0196         | 0.9525 |
| 7  | 0.20424793       | 0.03865321     | 0.0128         | 0.9652 |
| 8  | 0.16559471       | 0.04488884     | 0.0103         | 0.9756 |
| 9  | 0.12070587       | 0.03129385     | 0.0075         | 0.9831 |
| 10 | 0.08941202       | 0.03253516     | 0.0056         | 0.9887 |
| 11 | 0.05687686       | 0.01149985     | 0.0036         | 0.9923 |
| 12 | 0.04537701       | 0.00880467     | 0.0028         | 0.9951 |
| 13 | 0.03657234       | 0.01790808     | 0.0023         | 0.9974 |
| 14 | 0.01866426       | 0.00470736     | 0.0012         | 0.9986 |

### La procédure CLUSTER Analyse de classification de la distance minimale de Ward

| Valeurs propres de la matrice de corrélation |                  |            |        |        |  |  |  |  |  |
|--|------------------|------------|--------|--------|--|--|--|--|--|
|  | Valeur<br>propre |            |        |        |  |  |  |  |  |
| 15   | 0.01395690       | 0.00503906 | 0.0009 | 0.9994 |  |  |  |  |  |
| 16   | 0.00891784       |            | 0.0006 | 1.0000 |  |  |  |  |  |

### Les données ont été standardisées à la moyenne 0 et la variance 1

Racine carrée de la moyenne des écarts-types au carré sur tout l'échantillon

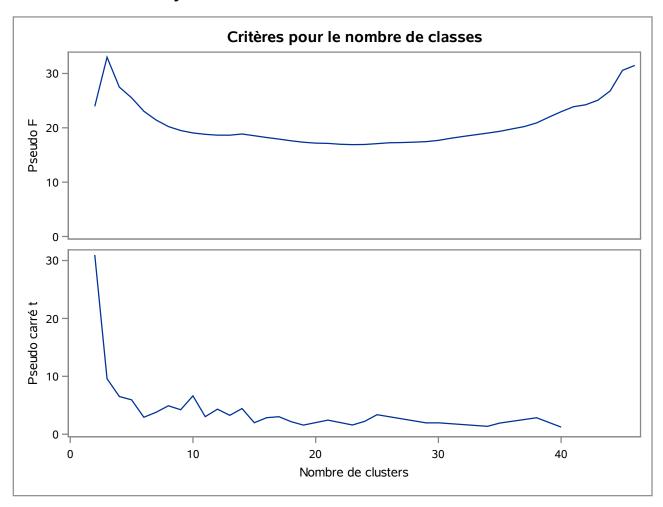
5.656854 Distance de la racine carrée de la moyenne entre les observations

|                          |                  | Hi          | istoriqu | e des classific         | ations  |                                  |                   |      |
|--------------------------|------------------|-------------|----------|-------------------------|---------|----------------------------------|-------------------|------|
| Nombre<br>de<br>clusters | Clusters jointes |             | Fréq     | R carré<br>semi-partiel | R carré | Loi de pseudo F<br>du rang signé | Pseudo<br>t-carré | Lien |
| 46                       | Keiyo-Marakwet   | Nandi       | 2        | 0.0007                  | .999    | 31.5                             |                   |      |
| 45                       | Kwale            | Kilifi      | 2        | 0.0008                  | .999    | 30.6                             |                   |      |
| 44                       | Homa Bay         | Bungoma     | 2        | 0.0011                  | .997    | 26.8                             |                   |      |
| 43                       | Siaya            | Kakamega    | 2        | 0.0012                  | .996    | 25.1                             |                   |      |
| 42                       | Kitui            | Migori      | 2        | 0.0012                  | .995    | 24.2                             |                   |      |
| 41                       | Narok            | Kericho     | 2        | 0.0012                  | .994    | 23.9                             |                   |      |
| 40                       | CL42             | Bomet       | 3        | 0.0015                  | .992    | 23.0                             | 1.2               |      |
| 39                       | Kirinyaga        | Embu        | 2        | 0.0017                  | .991    | 22.0                             |                   |      |
| 38                       | Trans Nzoia      | CL46        | 3        | 0.0020                  | .988    | 20.9                             | 2.8               |      |
| 37                       | Garissa          | Wajir       | 2        | 0.0020                  | .986    | 20.2                             |                   |      |
| 36                       | Tharaka          | Baringo     | 2        | 0.0021                  | .984    | 19.8                             |                   |      |
| 35                       | CL43             | Vihiga      | 3        | 0.0023                  | .982    | 19.4                             | 1.9               |      |
| 34                       | CL39             | Murang'a    | 3        | 0.0024                  | .980    | 19.0                             | 1.4               |      |
| 33                       | Kisii            | Nyamira     | 2        | 0.0026                  | .977    | 18.7                             |                   |      |
| 32                       | Machakos         | Makueni     | 2        | 0.0028                  | .974    | 18.4                             |                   |      |
| 31                       | Taita Taveta     | Uasin Gishu | 2        | 0.0030                  | .971    | 18.1                             |                   |      |
| 30                       | CL35             | Busia       | 4        | 0.0034                  | .968    | 17.7                             | 2.0               |      |
| 29                       | CL33             | CL38        | 5        | 0.0034                  | .964    | 17.5                             | 2.0               |      |
| 28                       | Kisumu           | Nakuru      | 2        | 0.0035                  | .961    | 17.4                             |                   |      |
| 27                       | Mandera          | Samburu     | 2        | 0.0036                  | .957    | 17.3                             |                   |      |
| 26                       | Isiolo           | West Pokot  | 2        | 0.0038                  | .954    | 17.2                             |                   |      |
| 25                       | CL40             | CL41        | 5        | 0.0045                  | .949    | 17.1                             | 3.4               |      |
| 24                       | Meru             | CL29        | 6        | 0.0049                  | .944    | 16.9                             | 2.2               |      |

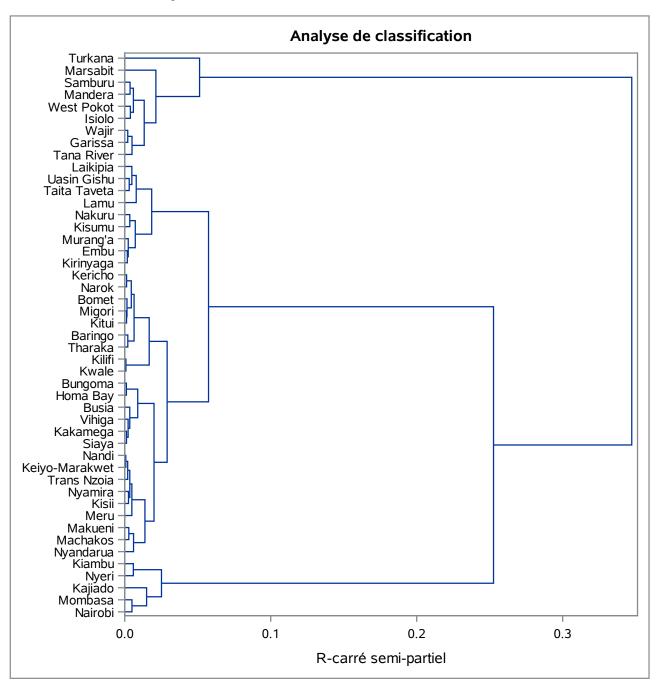
# La procédure CLUSTER Analyse de classification de la distance minimale de Ward

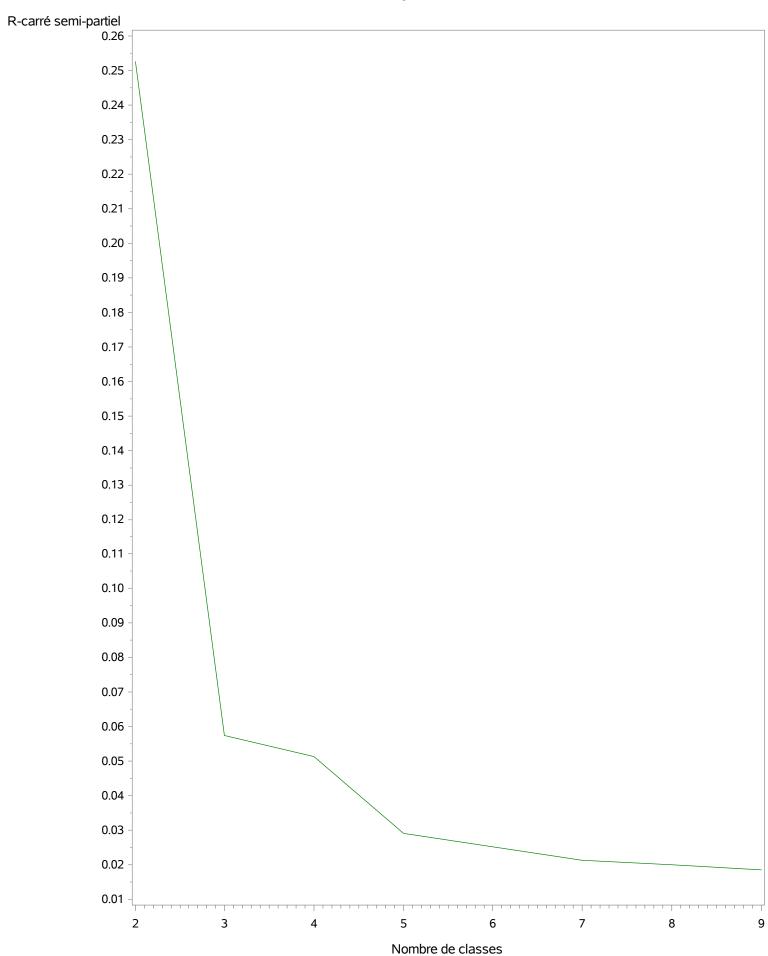
|                          |            | H        | istoriqu | e des classific         | ations  |                                  |                   |      |
|--------------------------|------------|----------|----------|-------------------------|---------|----------------------------------|-------------------|------|
| Nombre<br>de<br>clusters | Clusters j | ointes   | Fréq     | R carré<br>semi-partiel | R carré | Loi de pseudo F<br>du rang signé | Pseudo<br>t-carré | Lien |
| 23                       | CL31       | Laikipia | 3        | 0.0049                  | .939    | 16.9                             | 1.6               |      |
| 22                       | Nairobi    | Mombasa  | 2        | 0.0049                  | .934    | 17.0                             |                   |      |
| 21                       | Tana River | CL37     | 3        | 0.0050                  | .929    | 17.1                             | 2.4               |      |
| 20                       | Nyeri      | Kiambu   | 2        | 0.0059                  | .924    | 17.2                             |                   |      |
| 19                       | CL26       | CL27     | 4        | 0.0059                  | .918    | 17.3                             | 1.6               |      |
| 18                       | Nyandarua  | CL32     | 3        | 0.0060                  | .912    | 17.6                             | 2.2               |      |
| 17                       | CL36       | CL25     | 7        | 0.0064                  | .905    | 17.9                             | 3.0               |      |
| 16                       | CL34       | CL28     | 5        | 0.0072                  | .898    | 18.2                             | 2.9               |      |
| 15                       | Lamu       | CL23     | 4        | 0.0078                  | .890    | 18.5                             | 2.0               |      |
| 14                       | CL30       | CL44     | 6        | 0.0089                  | .881    | 18.9                             | 4.4               |      |
| 13                       | CL21       | CL19     | 7        | 0.0133                  | .868    | 18.6                             | 3.3               |      |
| 12                       | CL18       | CL24     | 9        | 0.0138                  | .854    | 18.6                             | 4.3               |      |
| 11                       | CL22       | Kajiado  | 3        | 0.0150                  | .839    | 18.8                             | 3.0               |      |
| 10                       | CL45       | CL17     | 9        | 0.0167                  | .823    | 19.1                             | 6.6               |      |
| 9                        | CL16       | CL15     | 9        | 0.0184                  | .804    | 19.5                             | 4.2               |      |
| 8                        | CL12       | CL14     | 15       | 0.0200                  | .784    | 20.2                             | 4.9               |      |
| 7                        | CL13       | Marsabit | 8        | 0.0213                  | .763    | 21.4                             | 3.8               |      |
| 6                        | CL11       | CL20     | 5        | 0.0252                  | .738    | 23.0                             | 2.9               |      |
| 5                        | CL8        | CL10     | 24       | 0.0290                  | .709    | 25.5                             | 5.9               |      |
| 4                        | CL7        | Turkana  | 9        | 0.0512                  | .657    | 27.5                             | 6.5               |      |
| 3                        | CL5        | CL9      | 33       | 0.0574                  | .600    | 33.0                             | 9.6               |      |
| 2                        | CL6        | CL3      | 38       | 0.2526                  | .347    | 23.9                             | 31.0              |      |
| 1                        | CL2        | CL4      | 47       | 0.3473                  | .000    |                                  | 23.9              |      |

La procédure CLUSTER Analyse de classification de la distance minimale de Ward

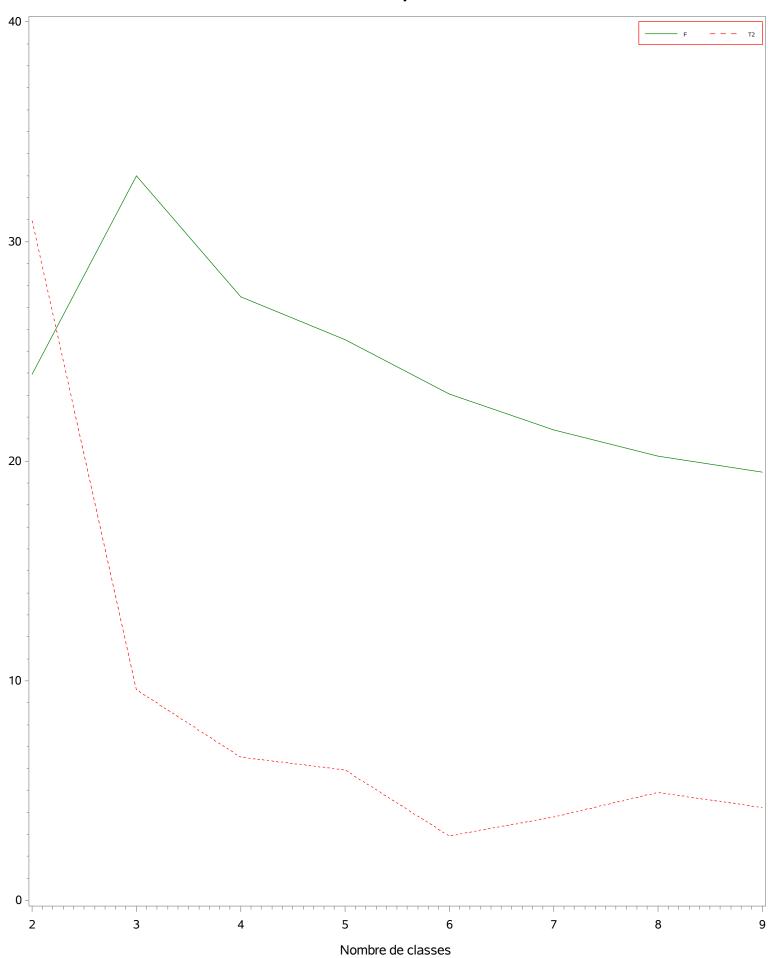


La procédure CLUSTER Analyse de classification de la distance minimale de Ward

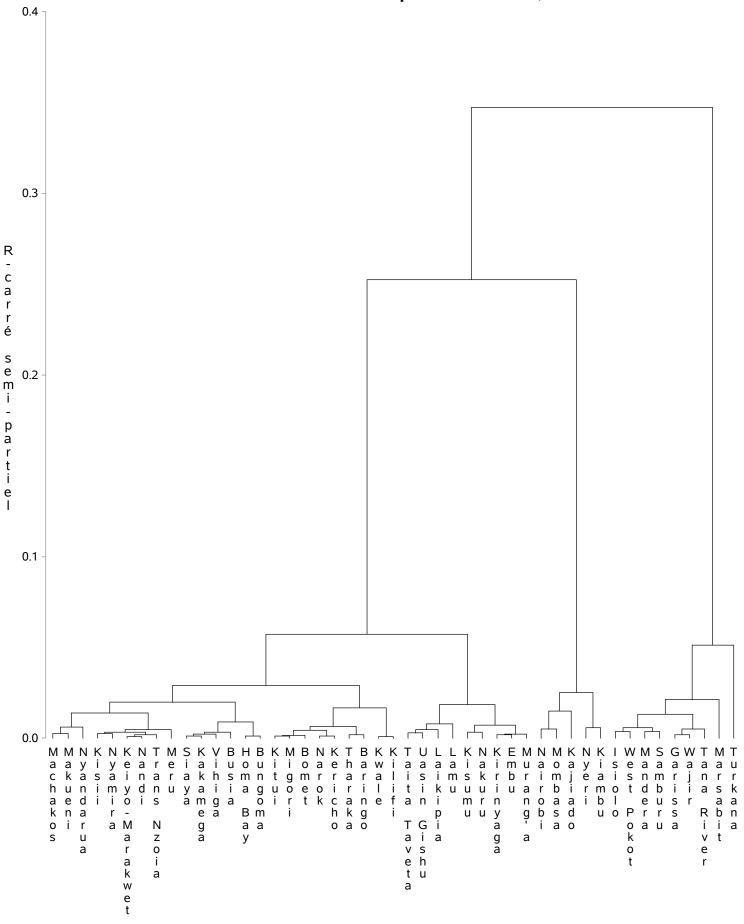




TP: Classification Ascendante Hiérarchique des counties, méthode = ward

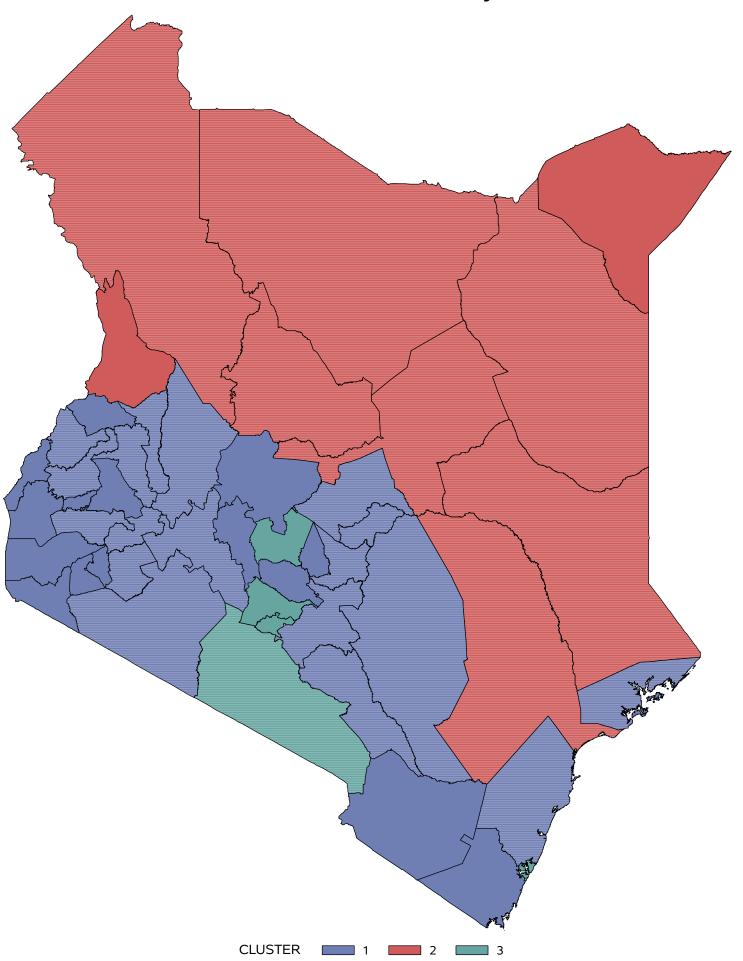


# TP: Classification Ascendante Hiérarchique des counties, méthode = ward



county

# Distribution des classes au Kénya



| Obs. | having_electricity_f | having_radio_f | having_television_f | having_refrigirator_f | having_landlinephone_f |
|------|----------------------|----------------|---------------------|-----------------------|------------------------|
| 1    | 0.19502              | 0.67082        | 0.19668             | 0.00831               | .001383126             |
| 2    | 0.17375              | 0.71429        | 0.24196             | 0.01544               | .002574003             |
| 3    | 0.21170              | 0.47303        | 0.19695             | 0.07607               | .004155125             |
| 4    | 0.30886              | 0.45765        | 0.24335             | 0.07098               | .003816794             |
| 5    | 0.10526              | 0.66083        | 0.18296             | 0.01252               | .008760951             |
| 6    | 0.12438              | 0.63547        | 0.20222             | 0.01852               | .009864365             |
| 7    | 0.12484              | 0.69039        | 0.18773             | 0.02497               | .004993758             |
| 8    | 0.16705              | 0.69565        | 0.25515             | 0.03436               | .004587156             |
| 9    | 0.11411              | 0.59387        | 0.12393             | 0.02577               | .002453988             |
| 10   | 0.07570              | 0.63936        | 0.15931             | 0.01222               | .002450980             |
| 11   | 0.16976              | 0.70136        | 0.16853             | 0.02107               | .002478315             |

| Obs. | having_mobilephone_f | having_solarpanel_f | having_table_f | having_chair_f | having_sofa_f | having_bed_f |
|------|----------------------|---------------------|----------------|----------------|---------------|--------------|
| 1    | 0.77455              | 0.11096             | 0.86445        | 0.92669        | 0.56510       | 0.92788      |
| 2    | 0.82625              | 0.13256             | 0.89318        | 0.92021        | 0.59588       | 0.89447      |
| 3    | 0.82271              | 0.06925             | 0.65422        | 0.81189        | 0.24654       | 0.88243      |
| 4    | 0.83016              | 0.06003             | 0.69708        | 0.84304        | 0.24810       | 0.91266      |
| 5    | 0.82080              | 0.16186             | 0.94493        | 0.95995        | 0.62328       | 0.93617      |
| 6    | 0.81874              | 0.13333             | 0.90887        | 0.96429        | 0.44212       | 0.91739      |
| 7    | 0.79526              | 0.11404             | 0.93375        | 0.96754        | 0.60701       | 0.93258      |
| 8    | 0.85126              | 0.15235             | 0.92105        | 0.91304        | 0.53608       | 0.94960      |
| 9    | 0.83313              | 0.13252             | 0.85890        | 0.97423        | 0.28221       | 0.95460      |
| 10   | 0.78755              | 0.09717             | 0.91054        | 0.94492        | 0.43941       | 0.91299      |
| 11   | 0.83891              | 0.11677             | 0.73358        | 0.83271        | 0.35192       | 0.92813      |

| Obs. | having_cupboard_f | having_clock_f | having_microwave_f | having_dvdplayer_f | having_cdplayer_f |
|------|-------------------|----------------|--------------------|--------------------|-------------------|
| 1    | 0.39696           | 0.11757        | 0.009695           | 0.12172            | 0.08575           |
| 2    | 0.42600           | 0.14839        | 0.012870           | 0.12484            | 0.09536           |
| 3    | 0.19779           | 0.13140        | 0.033195           | 0.13693            | 0.08990           |
| 4    | 0.23418           | 0.11660        | 0.020253           | 0.16456            | 0.10759           |
| 5    | 0.36295           | 0.14160        | 0.011264           | 0.08135            | 0.04506           |
| 6    | 0.38177           | 0.15148        | 0.007389           | 0.09975            | 0.06527           |
| 7    | 0.45044           | 0.25282        | 0.012516           | 0.08636            | 0.09262           |
| 8    | 0.47079           | 0.22311        | 0.019451           | 0.12586            | 0.07780           |
| 9    | 0.29080           | 0.13374        | 0.008589           | 0.07975            | 0.04663           |
| 10   | 0.29779           | 0.11369        | 0.004890           | 0.08791            | 0.05006           |
| 11   | 0.33086           | 0.07435        | 0.013631           | 0.14374            | 0.11896           |

| Obs. | having_electricity_f | having_radio_f | having_television_f | having_refrigirator_f | having_landlinephone_f |
|------|----------------------|----------------|---------------------|-----------------------|------------------------|
| 12   | 0.19945              | 0.68269        | 0.20770             | 0.03297               | .002751032             |
| 13   | 0.08345              | 0.70755        | 0.13108             | 0.01348               | .001351351             |
| 14   | 0.33246              | 0.74707        | 0.40808             | 0.04694               | .002610966             |
| 15   | 0.28205              | 0.72308        | 0.32564             | 0.05641               | .003851091             |
| 16   | 0.22319              | 0.65960        | 0.26060             | 0.02996               | .002496879             |
| 17   | 0.14670              | 0.62719        | 0.20458             | 0.01482               | .006729475             |
| 18   | 0.17800              | 0.59130        | 0.19247             | 0.01013               | .004341534             |
| 19   | 0.15252              | 0.73184        | 0.22884             | 0.02384               | .003973510             |
| 20   | 0.33492              | 0.79976        | 0.33254             | 0.03218               | .001193317             |
| 21   | 0.28047              | 0.65680        | 0.27844             | 0.02607               | 0                      |
| 22   | 0.21204              | 0.71351        | 0.24966             | 0.01501               | .001366120             |

| Obs. | having_mobilephone_f | having_solarpanel_f | having_table_f | having_chair_f | having_sofa_f | having_bed_f |
|------|----------------------|---------------------|----------------|----------------|---------------|--------------|
| 12   | 0.83356              | 0.09066             | 0.83379        | 0.94231        | 0.40276       | 0.89546      |
| 13   | 0.83962              | 0.16285             | 0.86810        | 0.94616        | 0.41375       | 0.92867      |
| 14   | 0.89164              | 0.13072             | 0.89439        | 0.78879        | 0.76632       | 0.97908      |
| 15   | 0.85751              | 0.14396             | 0.89487        | 0.86026        | 0.58077       | 0.97176      |
| 16   | 0.84500              | 0.13065             | 0.89638        | 0.73750        | 0.69202       | 0.91635      |
| 17   | 0.77224              | 0.17497             | 0.80054        | 0.80728        | 0.36070       | 0.98381      |
| 18   | 0.70478              | 0.12899             | 0.70930        | 0.76087        | 0.43687       | 0.92899      |
| 19   | 0.83884              | 0.07190             | 0.97351        | 0.98151        | 0.55159       | 0.94709      |
| 20   | 0.88558              | 0.11483             | 0.94279        | 0.93087        | 0.64601       | 0.99285      |
| 21   | 0.83787              | 0.06991             | 0.95616        | 0.92071        | 0.63314       | 0.98460      |
| 22   | 0.90314              | 0.12363             | 0.96038        | 0.97131        | 0.56772       | 0.98497      |

| Obs. | having_cupboard_f | having_clock_f | having_microwave_f | having_dvdplayer_f | having_cdplayer_f |
|------|-------------------|----------------|--------------------|--------------------|-------------------|
| 12   | 0.37689           | 0.12672        | 0.010989           | 0.11676            | 0.09904           |
| 13   | 0.31402           | 0.08907        | 0.002695           | 0.07412            | 0.05660           |
| 14   | 0.63791           | 0.22193        | 0.028758           | 0.25849            | 0.10574           |
| 15   | 0.56282           | 0.22336        | 0.034615           | 0.20026            | 0.08205           |
| 16   | 0.41698           | 0.17419        | 0.012469           | 0.15337            | 0.10112           |
| 17   | 0.37416           | 0.13612        | 0.005384           | 0.10229            | 0.07537           |
| 18   | 0.30580           | 0.07692        | 0.002903           | 0.11014            | 0.07391           |
| 19   | 0.60502           | 0.24306        | 0.005284           | 0.08851            | 0.07530           |
| 20   | 0.74463           | 0.24553        | 0.017878           | 0.21812            | 0.08820           |
| 21   | 0.44260           | 0.12189        | 0.010651           | 0.17633            | 0.08876           |
| 22   | 0.48295           | 0.10656        | 0.009563           | 0.09973            | 0.03142           |

| Obs. | having_electricity_f | having_radio_f | having_television_f | having_refrigirator_f | having_landlinephone_f |
|------|----------------------|----------------|---------------------|-----------------------|------------------------|
| 23   | 0.20595              | 0.73333        | 0.24524             | 0.02143               | .002386635             |
| 24   | 0.11180              | 0.68696        | 0.15031             | 0.01244               | .001242236             |
| 25   | 0.33782              | 0.64785        | 0.28629             | 0.06317               | .006729475             |
| 26   | 0.35330              | 0.72372        | 0.35819             | 0.04034               | .008557457             |
| 27   | 0.10567              | 0.57216        | 0.17290             | 0.02062               | .005154639             |
| 28   | 0.34913              | 0.78304        | 0.36704             | 0.09102               | .003745318             |
| 29   | 0.48283              | 0.78540        | 0.43300             | 0.06556               | .003337041             |
| 30   | 0.28808              | 0.62338        | 0.30106             | 0.04615               | .001182033             |
| 31   | 0.32341              | 0.73478        | 0.37212             | 0.04743               | .008152174             |
| 32   | 0.23262              | 0.83155        | 0.36364             | 0.01872               | .001338688             |
| 33   | 0.36011              | 0.59684        | 0.30703             | 0.10760               | .005763689             |

| Obs. | having_mobilephone_f | having_solarpanel_f | having_table_f | having_chair_f | having_sofa_f | having_bed_f |
|------|----------------------|---------------------|----------------|----------------|---------------|--------------|
| 23   | 0.89762              | 0.16786             | 0.92024        | 0.92381        | 0.57857       | 0.97619      |
| 24   | 0.88696              | 0.17786             | 0.89814        | 0.96522        | 0.41915       | 0.98261      |
| 25   | 0.88022              | 0.11306             | 0.84812        | 0.83199        | 0.42070       | 0.95699      |
| 26   | 0.89487              | 0.16034             | 0.90954        | 0.89976        | 0.63936       | 0.93513      |
| 27   | 0.79974              | 0.06323             | 0.88903        | 0.91366        | 0.57732       | 0.92258      |
| 28   | 0.88903              | 0.07268             | 0.93641        | 0.96010        | 0.55860       | 0.92643      |
| 29   | 0.89712              | 0.09677             | 0.89567        | 0.93341        | 0.62819       | 0.96120      |
| 30   | 0.85360              | 0.15466             | 0.85242        | 0.66194        | 0.53428       | 0.97285      |
| 31   | 0.88753              | 0.18293             | 0.82273        | 0.55886        | 0.64722       | 0.88633      |
| 32   | 0.91968              | 0.23930             | 0.92380        | 0.91979        | 0.69786       | 0.97727      |
| 33   | 0.86370              | 0.17217             | 0.64849        | 0.70445        | 0.27977       | 0.90387      |

| Obs. | having_cupboard_f | having_clock_f | having_microwave_f | having_dvdplayer_f | having_cdplayer_f |
|------|-------------------|----------------|--------------------|--------------------|-------------------|
| 23   | 0.56548           | 0.28282        | 0.017857           | 0.12992            | 0.11429           |
| 24   | 0.46517           | 0.17910        | 0.004969           | 0.09441            | 0.09441           |
| 25   | 0.42665           | 0.21371        | 0.025538           | 0.21237            | 0.10484           |
| 26   | 0.50367           | 0.21149        | 0.028117           | 0.16504            | 0.06235           |
| 27   | 0.34452           | 0.18428        | 0.003886           | 0.09419            | 0.07355           |
| 28   | 0.46633           | 0.26467        | 0.036160           | 0.24688            | 0.18703           |
| 29   | 0.56889           | 0.19978        | 0.047831           | 0.27920            | 0.10591           |
| 30   | 0.40260           | 0.13254        | 0.028335           | 0.18064            | 0.05785           |
| 31   | 0.58999           | 0.17886        | 0.027100           | 0.24899            | 0.06495           |
| 32   | 0.70281           | 0.23190        | 0.008043           | 0.20884            | 0.10977           |
| 33   | 0.34483           | 0.20000        | 0.017241           | 0.20977            | 0.09770           |

| Obs. | having_electricity_f | having_radio_f | having_television_f | having_refrigirator_f | having_landlinephone_f |
|------|----------------------|----------------|---------------------|-----------------------|------------------------|
| 34   | 0.22151              | 0.29535        | 0.15620             | 0.059390              | 0.001605               |
| 35   | 0.18707              | 0.37755        | 0.13118             | 0.059524              | 0.003407               |
| 36   | 0.13777              | 0.29147        | 0.09443             | 0.031008              | 0.004651               |
| 37   | 0.17077              | 0.35022        | 0.13748             | 0.021708              | 0.004354               |
| 38   | 0.22069              | 0.38567        | 0.21488             | 0.033103              | 0.004132               |
| 39   | 0.10856              | 0.40520        | 0.10398             | 0.000000              | 0.003058               |
| 40   | 0.06171              | 0.37868        | 0.08696             | 0.021038              | 0.001403               |
| 41   | 0.24823              | 0.32766        | 0.19149             | 0.021277              | 0.012766               |
| 42   | 0.04082              | 0.08601        | 0.04519             | 0.013120              | 0.001458               |

| Obs. | having_mobilephone_f | having_solarpanel_f | having_table_f | having_chair_f | having_sofa_f | having_bed_f |
|------|----------------------|---------------------|----------------|----------------|---------------|--------------|
| 34   | 0.74277              | 0.041734            | 0.42512        | 0.50562        | 0.16908       | 0.94864      |
| 35   | 0.64225              | 0.030769            | 0.38095        | 0.34014        | 0.13311       | 0.87925      |
| 36   | 0.52477              | 0.018663            | 0.52950        | 0.60217        | 0.09457       | 0.96904      |
| 37   | 0.62518              | 0.049204            | 0.37192        | 0.71925        | 0.21563       | 0.79305      |
| 38   | 0.63085              | 0.063361            | 0.61157        | 0.61846        | 0.39669       | 0.89379      |
| 39   | 0.60550              | 0.062691            | 0.72171        | 0.83945        | 0.35321       | 0.92813      |
| 40   | 0.73034              | 0.064516            | 0.35484        | 0.35484        | 0.08873       | 0.69058      |
| 41   | 0.54752              | 0.049645            | 0.39858        | 0.44255        | 0.28835       | 0.57872      |
| 42   | 0.33139              | 0.036443            | 0.16910        | 0.23761        | 0.07872       | 0.16350      |

| Obs. | having_cupboard_f | having_clock_f | having_microwave_f | having_dvdplayer_f | having_cdplayer_f |
|------|-------------------|----------------|--------------------|--------------------|-------------------|
| 34   | 0.15249           | 0.048232       | 0.004815           | 0.06260            | 0.049759          |
| 35   | 0.07143           | 0.011905       | 0.001701           | 0.04762            | 0.034014          |
| 36   | 0.07895           | 0.046440       | 0.000000           | 0.03411            | 0.034109          |
| 37   | 0.14038           | 0.031838       | 0.014472           | 0.09565            | 0.018868          |
| 38   | 0.26483           | 0.070345       | 0.026207           | 0.11448            | 0.074483          |
| 39   | 0.18224           | 0.041284       | 0.004587           | 0.05505            | 0.035168          |
| 40   | 0.10098           | 0.032303       | 0.004208           | 0.06452            | 0.028050          |
| 41   | 0.15177           | 0.062411       | 0.009929           | 0.07801            | 0.021277          |
| 42   | 0.05394           | 0.017493       | 0.001458           | 0.01749            | 0.011662          |

| Obs. | having_electricity_f | having_radio_f | having_television_f | having_refrigirator_f | having_landlinephone_f |
|------|----------------------|----------------|---------------------|-----------------------|------------------------|
| 43   | 0.87661              | 0.74677        | 0.68871             | 0.17258               | 0.010501               |
| 44   | 0.76332              | 0.68204        | 0.60745             | 0.16230               | 0.007673               |
| 45   | 0.49238              | 0.83705        | 0.54279             | 0.07042               | 0.005869               |
| 46   | 0.67266              | 0.82854        | 0.59664             | 0.12470               | 0.004819               |
| 47   | 0.52078              | 0.65974        | 0.41169             | 0.13766               | 0.009091               |

| Obs. | having_mobilephone_f | having_solarpanel_f | having_table_f | having_chair_f | having_sofa_f | having_bed_f |
|------|----------------------|---------------------|----------------|----------------|---------------|--------------|
| 43   | 0.97579              | 0.01454             | 0.90234        | 0.69355        | 0.66074       | 0.95803      |
| 44   | 0.95409              | 0.01259             | 0.77556        | 0.62735        | 0.60924       | 0.91791      |
| 45   | 0.94490              | 0.13599             | 0.95780        | 0.95311        | 0.82649       | 0.99179      |
| 46   | 0.92806              | 0.05042             | 0.93517        | 0.92206        | 0.83914       | 0.97959      |
| 47   | 0.88312              | 0.05859             | 0.72078        | 0.81818        | 0.55974       | 0.94805      |

| Obs. | having_cupboard_f | having_clock_f | having_microwave_f | having_dvdplayer_f | having_cdplayer_f |
|------|-------------------|----------------|--------------------|--------------------|-------------------|
| 43   | 0.57789           | 0.30670        | 0.11542            | 0.51251            | 0.21890           |
| 44   | 0.43781           | 0.27591        | 0.07431            | 0.44900            | 0.25843           |
| 45   | 0.76553           | 0.30012        | 0.03869            | 0.35446            | 0.22978           |
| 46   | 0.74880           | 0.35379        | 0.07212            | 0.41707            | 0.21609           |
| 47   | 0.42987           | 0.22338        | 0.08312            | 0.33636            | 0.11558           |

|                        | Classes |         |         |         |
|------------------------|---------|---------|---------|---------|
|                        | 1       | 2       | 3       | Tout    |
|                        | Moyenne | Moyenne | Moyenne | Moyenne |
| having_electricity_f   | 0.22    | 0.16    | 0.67    | 0.26    |
| having_radio_f         | 0.68    | 0.32    | 0.75    | 0.62    |
| having_television_f    | 0.25    | 0.13    | 0.57    | 0.26    |
| having_refrigirator_f  | 0.04    | 0.03    | 0.13    | 0.04    |
| having_landlinephone_f | 0.00    | 0.00    | 0.01    | 0.00    |
| having_mobilephone_f   | 0.84    | 0.60    | 0.94    | 0.81    |
| having_solarpanel_f    | 0.13    | 0.05    | 0.05    | 0.10    |
| having_table_f         | 0.87    | 0.44    | 0.86    | 0.78    |
| having_chair_f         | 0.88    | 0.52    | 0.80    | 0.80    |
| having_sofa_f          | 0.51    | 0.20    | 0.70    | 0.47    |
| having_bed_f           | 0.94    | 0.76    | 0.96    | 0.91    |
| having_cupboard_f      | 0.44    | 0.13    | 0.59    | 0.40    |
| having_clock_f         | 0.17    | 0.04    | 0.29    | 0.16    |
| having_microwave_f     | 0.02    | 0.01    | 0.08    | 0.02    |
| having_dvdplayer_f     | 0.15    | 0.06    | 0.41    | 0.16    |
| having_cdplayer_f      | 0.09    | 0.03    | 0.21    | 0.09    |

|                        | valeur test |       |       |
|------------------------|-------------|-------|-------|
|                        | Classes     |       |       |
|                        | 1           | 2     | 3     |
| having_electricity_f   | -2.02       | -1.90 | 5.41  |
| having_radio_f         | 3.69        | -5.76 | 1.88  |
| having_television_f    | -0.74       | -3.12 | 5.09  |
| having_refrigirator_f  | -2.41       | -1.27 | 5.19  |
| having_landlinephone_f | -1.65       | -0.20 | 2.70  |
| having_mobilephone_f   | 3.12        | -5.53 | 2.43  |
| having_solarpanel_f    | 4.63        | -3.64 | -2.22 |
| having_table_f         | 4.33        | -5.72 | 0.88  |
| having_chair_f         | 4.25        | -4.96 | 0.02  |
| having_sofa_f          | 2.13        | -4.58 | 2.69  |
| having_bed_f           | 2.56        | -3.67 | 0.89  |
| having_cupboard_f      | 2.40        | -4.74 | 2.49  |
| having_clock_f         | 1.48        | -4.57 | 3.63  |
| having_microwave_f     | -2.09       | -1.90 | 5.52  |
| having_dvdplayer_f     | -1.12       | -2.94 | 5.41  |
| having_cdplayer_f      | -0.60       | -3.28 | 5.07  |