# day 4 code

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Loading the required libraries

```
library(data.table)
library(stringr)
library(ggplot2)
```

Data Validation

```
cc <- fread('countrycode.csv')
class(cc)
```

```
## [1] "data.table" "data.frame"
```

```
head(cc)
```

```
##    CountryCode      ShortName      TableName
## 1:        AFG    Afghanistan    Afghanistan
## 2:        ALB         Albania         Albania
## 3:        DZA         Algeria         Algeria
## 4:        ASM American Samoa American Samoa
## 5:        ADO         Andorra         Andorra
## 6:        AGO          Angola          Angola
##                                    LongName Alpha2Code   CurrencyUnit
## 1:         Islamic State of Afghanistan         AF Afghan afghani
## 2:                  Republic of Albania         AL    Albanian lek
## 3: People's Democratic Republic of Algeria         DZ Algerian dinar
## 4:                       American Samoa         AS     U.S. dollar
## 5:              Principality of Andorra         AD            Euro
## 6:          People's Republic of Angola         AO Angolan kwanza
##
## 1: Fiscal year end: March 20; reporting period for national accounts data: FY (from 2013 are CY). Na
## 2:
## 3:
## 4:
## 5:
## 6:
##                          Region       IncomeGroup Wb2Code
## 1:              South Asia          Low income        AF
## 2:     Europe & Central Asia  Upper middle income        AL
## 3: Middle East & North Africa  Upper middle income        DZ
## 4:        East Asia & Pacific  Upper middle income        AS
## 5:     Europe & Central Asia High income: nonOECD        AD
## 6:        Sub-Saharan Africa  Upper middle income        AO
##                       NationalAccountsBaseYear
## 1:                                  2002/03
```

```
## 2: Original chained constant price data are rescaled.
## 3:                                                     1980
## 4:
## 5:                                                     2000
## 6:                                                     2002
##    NationalAccountsReferenceYear                     SnaPriceValuation
## 1:                                      Value added at basic prices (VAB)
## 2:                            1996      Value added at basic prices (VAB)
## 3:                                      Value added at basic prices (VAB)
## 4:
## 5:                                      Value added at basic prices (VAB)
## 6:                                   Value added at producer prices (VAP)
##    LendingCategory OtherGroups
## 1:             IDA        HIPC
## 2:            IBRD
## 3:            IBRD
## 4:
## 5:
## 6:            IBRD
##                                                 SystemOfNationalAccounts
## 1: Country uses the 1993 System of National Accounts methodology.
## 2: Country uses the 1993 System of National Accounts methodology.
## 3: Country uses the 1968 System of National Accounts methodology.
## 4: Country uses the 1968 System of National Accounts methodology.
## 5: Country uses the 1968 System of National Accounts methodology.
## 6: Country uses the 1993 System of National Accounts methodology.
##    AlternativeConversionFactor                       PppSurveyYear
## 1:
## 2:                                                         Rolling
## 3:                                                            2011
## 4:                      2011 (household consumption only).
## 5:
## 6:                     1991Â-96                                2011
##               BalanceOfPaymentsManualInUse
## 1:
## 2: IMF Balance of Payments Manual, 6th edition.
## 3: IMF Balance of Payments Manual, 6th edition.
## 4:
## 5:
## 6: IMF Balance of Payments Manual, 6th edition.
##    ExternalDebtReportingStatus         SystemOfTrade
## 1:                      Actual General trade system
## 2:                      Actual General trade system
## 3:                      Actual Special trade system
## 4:                             Special trade system
## 5:                             Special trade system
## 6:                      Actual Special trade system
##        GovernmentAccountingConcept
## 1: Consolidated central government
## 2:     Budgetary central government
## 3:     Budgetary central government
## 4:
## 5:
## 6:     Budgetary central government
```

```
##                 ImfDataDisseminationStandard
## 1: General Data Dissemination System (GDDS)
## 2: General Data Dissemination System (GDDS)
## 3: General Data Dissemination System (GDDS)
## 4:
## 5:
## 6: General Data Dissemination System (GDDS)
##                                         LatestPopulationCensus
## 1:                                                         1979
## 2:                                                         2011
## 3:                                                         2008
## 4:                                                         2010
## 5: 2011. Population data compiled from administrative registers.
## 6:                                                         2014
##                                LatestHouseholdSurvey
## 1: Multiple Indicator Cluster Survey (MICS), 2010/11
## 2:        Demographic and Health Survey (DHS), 2008/09
## 3:     Multiple Indicator Cluster Survey (MICS), 2012
## 4:
## 5:
## 6:            Malaria Indicator Survey (MIS), 2011
##                 SourceOfMostRecentIncomeAndExpenditureData
## 1:              Integrated household survey (IHS), 2008
## 2: Living Standards Measurement Study Survey (LSMS), 2011/12
## 3:              Integrated household survey (IHS), 1995
## 4:
## 5:
## 6:            Integrated household survey (IHS), 2008/09
##    VitalRegistrationComplete LatestAgriculturalCensus LatestIndustrialData
## 1:                                            2013/14                   NA
## 2:                       Yes                     2012                 2011
## 3:                                                                    2010
## 4:                       Yes                     2007                   NA
## 5:                       Yes                                           NA
## 6:                                               2015                   NA
##    LatestTradeData LatestWaterWithdrawalData
## 1:            2013                      2000
## 2:            2013                      2006
## 3:            2013                      2001
## 4:              NA                        NA
## 5:            2006                        NA
## 6:              NA                      2005
```

```
str(cc)
```

```
## Classes 'data.table' and 'data.frame':    247 obs. of  31 variables:
##  $ CountryCode                        : chr  "AFG" "ALB" "DZA" "ASM" ...
##  $ ShortName                          : chr  "Afghanistan" "Albania" "Algeria" "American Samoa
##  $ TableName                          : chr  "Afghanistan" "Albania" "Algeria" "American Samoa
##  $ LongName                           : chr  "Islamic State of Afghanistan" "Republic of Alba
##  $ Alpha2Code                         : chr  "AF" "AL" "DZ" "AS" ...
##  $ CurrencyUnit                       : chr  "Afghan afghani" "Albanian lek" "Algerian dinar"
##  $ SpecialNotes                       : chr  "Fiscal year end: March 20; reporting period for
##  $ Region                             : chr  "South Asia" "Europe & Central Asia" "Middle East
```

```
##  $ IncomeGroup                             : chr  "Low income" "Upper middle income" "Upper middle
##  $ Wb2Code                                 : chr  "AF" "AL" "DZ" "AS" ...
##  $ NationalAccountsBaseYear                : chr  "2002/03" "Original chained constant price data a
##  $ NationalAccountsReferenceYear           : chr  "" "1996" "" "" ...
##  $ SnaPriceValuation                       : chr  "Value added at basic prices (VAB)" "Value added
##  $ LendingCategory                         : chr  "IDA" "IBRD" "IBRD" "" ...
##  $ OtherGroups                             : chr  "HIPC" "" "" "" ...
##  $ SystemOfNationalAccounts                : chr  "Country uses the 1993 System of National Account
##  $ AlternativeConversionFactor             : chr  "" "" "" "" ...
##  $ PppSurveyYear                           : chr  "" "Rolling" "2011" "2011 (household consumption
##  $ BalanceOfPaymentsManualInUse            : chr  "" "IMF Balance of Payments Manual, 6th edition.
##  $ ExternalDebtReportingStatus             : chr  "Actual" "Actual" "Actual" "" ...
##  $ SystemOfTrade                           : chr  "General trade system" "General trade system" "Sp
##  $ GovernmentAccountingConcept             : chr  "Consolidated central government" "Budgetary cen
##  $ ImfDataDisseminationStandard            : chr  "General Data Dissemination System (GDDS)" "Gene
##  $ LatestPopulationCensus                  : chr  "1979" "2011" "2008" "2010" ...
##  $ LatestHouseholdSurvey                   : chr  "Multiple Indicator Cluster Survey (MICS), 2010/
##  $ SourceOfMostRecentIncomeAndExpenditureData: chr  "Integrated household survey (IHS), 2008" "Living
##  $ VitalRegistrationComplete               : chr  "" "Yes" "" "Yes" ...
##  $ LatestAgriculturalCensus                : chr  "2013/14" "2012" "" "2007" ...
##  $ LatestIndustrialData                    : int  NA 2011 2010 NA NA NA NA NA 2002 2008 ...
##  $ LatestTradeData                         : int  2013 2013 2013 NA 2006 NA 2013 NA 2013 2013 ...
##  $ LatestWaterWithdrawalData               : int  2000 2006 2001 NA NA 2005 2005 NA 2011 2012 ...
##  - attr(*, ".internal.selfref")=<externalptr>
```

```r
summary(cc)
```

```
##   CountryCode          ShortName          TableName
##  Length:247          Length:247          Length:247
##  Class :character    Class :character    Class :character
##  Mode  :character    Mode  :character    Mode  :character
##
##
##
##
##    LongName            Alpha2Code          CurrencyUnit
##  Length:247          Length:247          Length:247
##  Class :character    Class :character    Class :character
##  Mode  :character    Mode  :character    Mode  :character
##
##
##
##
##  SpecialNotes          Region             IncomeGroup
##  Length:247          Length:247          Length:247
##  Class :character    Class :character    Class :character
##  Mode  :character    Mode  :character    Mode  :character
##
##
##
##
##    Wb2Code            NationalAccountsBaseYear NationalAccountsReferenceYear
##  Length:247          Length:247               Length:247
##  Class :character    Class :character         Class :character
```

```
##   Mode   :character   Mode   :character          Mode   :character
##
##
##
##
##   SnaPriceValuation   LendingCategory    OtherGroups
##   Length:247          Length:247         Length:247
##   Class :character    Class :character   Class :character
##   Mode  :character    Mode  :character   Mode  :character
##
##
##
##
##   SystemOfNationalAccounts AlternativeConversionFactor PppSurveyYear
##   Length:247               Length:247                  Length:247
##   Class :character         Class :character            Class :character
##   Mode  :character         Mode  :character            Mode  :character
##
##
##
##
##   BalanceOfPaymentsManualInUse ExternalDebtReportingStatus
##   Length:247                   Length:247
##   Class :character             Class :character
##   Mode  :character             Mode  :character
##
##
##
##
##   SystemOfTrade      GovernmentAccountingConcept
##   Length:247         Length:247
##   Class :character   Class :character
##   Mode  :character   Mode  :character
##
##
##
##
##   ImfDataDisseminationStandard LatestPopulationCensus LatestHouseholdSurvey
##   Length:247                   Length:247             Length:247
##   Class :character             Class :character       Class :character
##   Mode  :character             Mode  :character       Mode  :character
##
##
##
##
##   SourceOfMostRecentIncomeAndExpenditureData VitalRegistrationComplete
##   Length:247                                 Length:247
##   Class :character                           Class :character
##   Mode  :character                           Mode  :character
##
##
##
##
##   LatestAgriculturalCensus LatestIndustrialData LatestTradeData
```

```
##  Length:247                Min.   :2001         Min.   :1995
##  Class :character          1st Qu.:2009         1st Qu.:2012
##  Mode  :character          Median :2010         Median :2013
##                            Mean   :2009         Mean   :2012
##                            3rd Qu.:2011         3rd Qu.:2013
##                            Max.   :2011         Max.   :2013
##                            NA's   :134          NA's   :61
##  LatestWaterWithdrawalData
##  Min.   :1975
##  1st Qu.:2001
##  Median :2005
##  Mean   :2004
##  3rd Qu.:2007
##  Max.   :2013
##  NA's   :67
```

```r
dim(cc)
```

```
## [1] 247  31
```

Data Visualization

```r
ggplot(data = cc, mapping = aes(x=CountryCode, y=Region)) +geom_point()
```
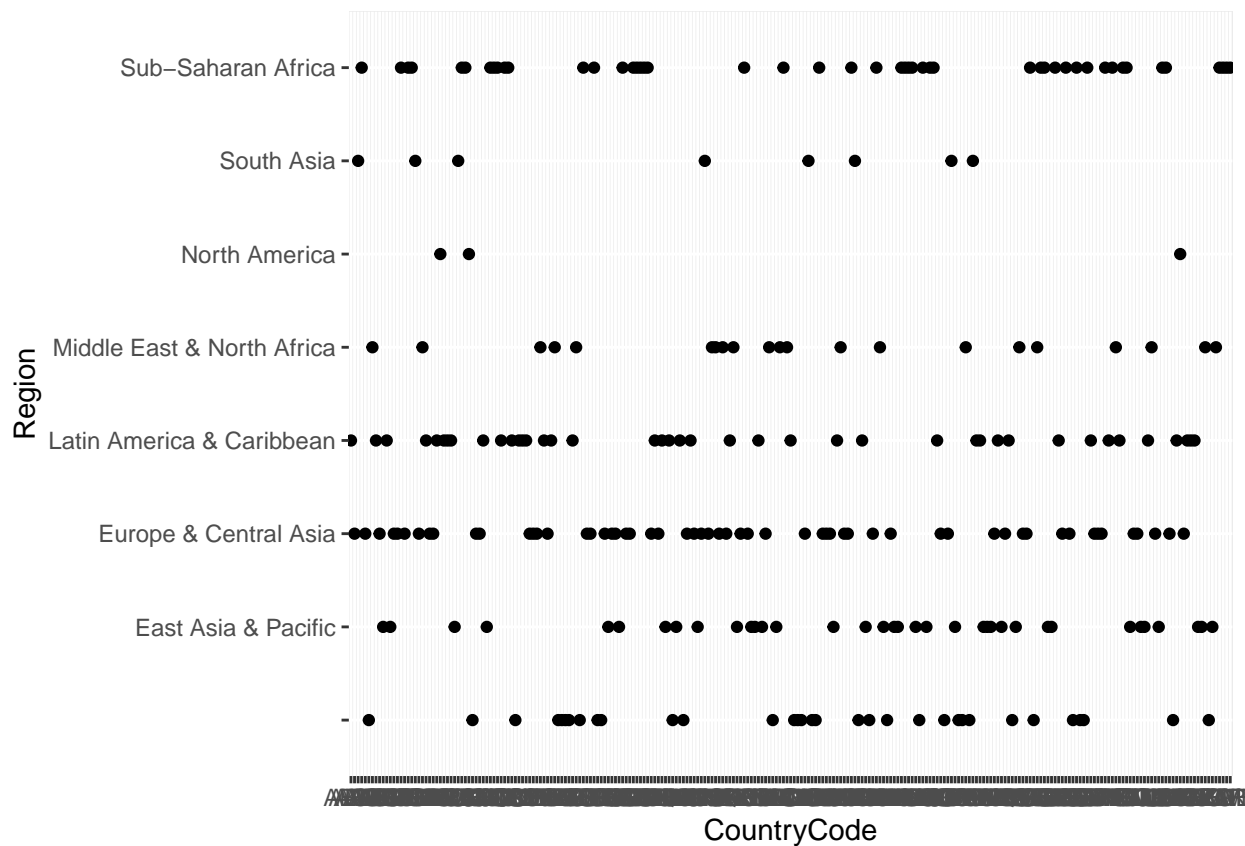


point plot

```
class(cc$CountryCode)
```

## [1] "character"

Checking the missing values

```
any(is.na(cc))
```

## [1] TRUE

missing values in data table

```
sum(is.na(cc))
```

## [1] 262

Total number of missing values in the data table

```
sum(is.na(cc$LatestWaterWithdrawalData))
```

## [1] 67

total number of missing values in the particular column

```
sum(is.na(cc$LatestWaterWithdrawalData))
```

## [1] 67

```
cc$LatestWaterWithdrawalData
```

```
##   [1] 2000 2006 2001   NA   NA 2005 2005   NA 2011 2012   NA 2000 2002 2012
##  [15] 2003 2008 2005 2000 2007 2000 2001   NA 2008 2000 2012 2000 2010 1994
##  [29] 2009 2005 2000 2001 2006 2000 1986   NA   NA 2005   NA 2005   NA 2006
##  [43] 2005 2008 1999 2002 2013 2005 2010 2007   NA 2009 2007 2005 2005 2009
##  [57] 2000 2004 2005   NA   NA 2005 2000 2005 2000 2004 2007 2002   NA   NA
##  [71]   NA   NA   NA 2000 2005   NA 2007   NA 2005 2008 2007 2000 2007   NA
##  [85] 2005   NA 2006 2001 2000 2010 2000   NA   NA   NA   NA 2003   NA 2007
##  [99] 2005 2010 2000 2004 2000 1979   NA 2004 2000 1993 2001 2005 2010 2003
## [113]   NA 2002   NA 2002 2006 2005   NA   NA 2002   NA 2005 2000 2000 2000
## [127]   NA 2007   NA   NA   NA 1999   NA 2007 2000 2005 2005 2008 2006 2002
## [141]   NA 2005 2003 2011   NA   NA   NA   NA 2007 2009 2009 2010 2000 2001
## [155] 2000 2002 2006 2008   NA 2002 2011 2005 2005   NA   NA 2006   NA 2003
## [169]   NA   NA 2008   NA 2010 2005 2012 2008 2009 2009 2002 2005 2005 2009
## [183] 2001 2000   NA   NA 1993 2006 2002 2009 2005 2005 1975   NA 2007 2009
## [197]   NA   NA 2003 2000   NA 2011 2008 2005   NA 2005   NA 1995   NA   NA
## [211] 2011 2006 2000 2007 2000 2005 2006 2002 2007   NA 2000 2004 2002   NA
## [225] 2000 2001 2003 2004   NA   NA 2002 2005 2005 2007 2005   NA 2000 2005
## [239]   NA 2000 2005   NA 2005   NA 2005 2002 2002
```

```
a <- which(is.na(cc$LatestWaterWithdrawalData))
a
```

```
##  [1]    4    5    8   11   22   36   37   39   41   51   60   61   69   70   71   72   73
## [18]   76   78   84   86   92   93   94   95   97  105  113  115  119  120  122  127  129
## [35]  130  131  133  141  145  146  147  148  159  164  165  167  169  170  172  185  186
## [52]  194  197  198  201  205  207  209  210  220  224  229  230  236  239  242  244
```

The index of all the NA values of the coulmn are stored in the variable "a"

```
b <- cc[ a, ]
b
```

```
##      CountryCode                                    ShortName
## 1:           ASM                               American Samoa
## 2:           ADO                                      Andorra
## 3:           ARB                                    Arab World
## 4:           ABW                                        Aruba
## 5:           BMU                                      Bermuda
## 6:           CSS                       Caribbean small states
## 7:           CYM                               Cayman Islands
## 8:           CEB                Central Europe and the Baltics
## 9:           CHI                              Channel Islands
## 10:          CUW                                      Curaçao
## 11:          EAS           East Asia & Pacific (all income levels)
## 12:          EAP           East Asia & Pacific (developing only)
## 13:          EMU                                    Euro area
## 14:          ECS      Europe & Central Asia (all income levels)
## 15:          ECA        Europe & Central Asia (developing only)
## 16:          EUU                               European Union
## 17:          FRO                               Faeroe Islands
## 18:          FCS            Fragile and conflict affected situations
## 19:          PYF                             French Polynesia
## 20:          GRL                                    Greenland
## 21:          GUM                                         Guam
## 22:          HPC           Heavily indebted poor countries (HIPC)
## 23:          HIC                                  High income
## 24:          NOC                         High income: nonOECD
## 25:          OEC                            High income: OECD
## 26:          HKG                         Hong Kong SAR, China
## 27:          IMY                                  Isle of Man
## 28:          KIR                                     Kiribati
## 29:          KSV                                       Kosovo
## 30:          LCN  Latin America & Caribbean (all income levels)
## 31:          LAC    Latin America & Caribbean (developing only)
## 32:          LDC          Least developed countries: UN classification
## 33:          LIE                                Liechtenstein
## 34:          LMY                            Low & middle income
## 35:          LIC                                   Low income
## 36:          LMC                         Lower middle income
## 37:          MAC                          Macao SAR, China
## 38:          MHL                             Marshall Islands
## 39:          FSM                                   Micronesia
```

```
## 40:        MEA Middle East & North Africa (all income levels)
## 41:        MNA   Middle East & North Africa (developing only)
## 42:        MIC                                   Middle income
## 43:        NCL                                   New Caledonia
## 44:        NAC                                   North America
## 45:        MNP                        Northern Mariana Islands
## 46:        OED                                    OECD members
## 47:        OSS                              Other small states
## 48:        PSS                      Pacific island small states
## 49:        PLW                                           Palau
## 50:        WSM                                           Samoa
## 51:        SMR                                      San Marino
## 52:        SXM                       Sint Maarten (Dutch part)
## 53:        SST                                     Small states
## 54:        SLB                                 Solomon Islands
## 55:        SAS                                      South Asia
## 56:        KNA                             St. Kitts and Nevis
## 57:        MAF                         St. Martin (French part)
## 58:        SSF        Sub-Saharan Africa (all income levels)
## 59:        SSA         Sub-Saharan Africa (developing only)
## 60:        BHS                                     The Bahamas
## 61:        TON                                           Tonga
## 62:        TCA                       Turks and Caicos Islands
## 63:        TUV                                          Tuvalu
## 64:        UMC                            Upper middle income
## 65:        VUT                                        Vanuatu
## 66:        VIR                                  Virgin Islands
## 67:        WLD                                           World
##     CountryCode                                     ShortName
##                                                     TableName
## 1:                                        American Samoa
## 2:                                               Andorra
## 3:                                            Arab World
## 4:                                                 Aruba
## 5:                                               Bermuda
## 6:                                 Caribbean small states
## 7:                                         Cayman Islands
## 8:                        Central Europe and the Baltics
## 9:                                       Channel Islands
## 10:                                             CuraÃ§ao
## 11:           East Asia & Pacific (all income levels)
## 12:                                  East Asia & Pacific
## 13:                                            Euro area
## 14:        Europe & Central Asia (all income levels)
## 15:                                Europe & Central Asia
## 16:                                       European Union
## 17:                                       Faeroe Islands
## 18:           Fragile and conflict affected situations
## 19:                                     French Polynesia
## 20:                                            Greenland
## 21:                                                 Guam
## 22:           Heavily indebted poor countries (HIPC)
## 23:                                          High income
## 24:                                  High income: nonOECD
```

```
## 25:                                   High income: OECD
## 26:                               Hong Kong SAR, China
## 27:                                        Isle of Man
## 28:                                           Kiribati
## 29:                                             Kosovo
## 30:   Latin America & Caribbean (all income levels)
## 31:                          Latin America & Caribbean
## 32:   Least developed countries: UN classification
## 33:                                      Liechtenstein
## 34:                                  Low & middle income
## 35:                                         Low income
## 36:                                Lower middle income
## 37:                                   Macao SAR, China
## 38:                                    Marshall Islands
## 39:                               Micronesia, Fed. Sts.
## 40: Middle East & North Africa (all income levels)
## 41:                         Middle East & North Africa
## 42:                                      Middle income
## 43:                                      New Caledonia
## 44:                                      North America
## 45:                           Northern Mariana Islands
## 46:                                       OECD members
## 47:                                 Other small states
## 48:                        Pacific island small states
## 49:                                              Palau
## 50:                                              Samoa
## 51:                                         San Marino
## 52:                         Sint Maarten (Dutch part)
## 53:                                       Small states
## 54:                                    Solomon Islands
## 55:                                         South Asia
## 56:                                 St. Kitts and Nevis
## 57:                           St. Martin (French part)
## 58:           Sub-Saharan Africa (all income levels)
## 59:                                 Sub-Saharan Africa
## 60:                                       Bahamas, The
## 61:                                              Tonga
## 62:                           Turks and Caicos Islands
## 63:                                             Tuvalu
## 64:                                 Upper middle income
## 65:                                            Vanuatu
## 66:                              Virgin Islands (U.S.)
## 67:                                              World
##                                              TableName
##                                                              LongName
## 1:                                              American Samoa
## 2:                                       Principality of Andorra
## 3:                                                     Arab World
## 4:                                                          Aruba
## 5:                                                   The Bermudas
## 6:                                         Caribbean small states
## 7:                                                 Cayman Islands
## 8:                                    Central Europe and the Baltics
## 9:                                                Channel Islands
```

```
## 10:                                                                    CuraÃ§ao
## 11:                                          East Asia & Pacific (all income levels)
## 12:                                          East Asia & Pacific (developing only)
## 13:                                                                    Euro area
## 14:                                     Europe & Central Asia (all income levels)
## 15:                                     Europe & Central Asia (developing only)
## 16:                                                              European Union
## 17:                                                               Faeroe Islands
## 18:                                                             Fragile situations
## 19:                                                             French Polynesia
## 20:                                                                    Greenland
## 21:                                                                         Guam
## 22:                                      Heavily indebted poor countries (HIPC)
## 23:                                                                  High income
## 24:                                                         High income: nonOECD
## 25:                                                            High income: OECD
## 26: Hong Kong Special Administrative Region of the People's Republic of China
## 27:                                                                   Isle of Man
## 28:                                                          Republic of Kiribati
## 29:                                                            Republic of Kosovo
## 30:                                      Latin America & Caribbean (all income levels)
## 31:                                       Latin America & Caribbean (developing only)
## 32:                                      Least developed countries: UN classification
## 33:                                                 Principality of Liechtenstein
## 34:                                                          Low & middle income
## 35:                                                                   Low income
## 36:                                                          Lower middle income
## 37:        Macao Special Administrative Region of the People's Republic of China
## 38:                                              Republic of the Marshall Islands
## 39:                                              Federated States of Micronesia
## 40:                                      Middle East & North Africa (all income levels)
## 41:                                      Middle East & North Africa (developing only)
## 42:                                                                Middle income
## 43:                                                                New Caledonia
## 44:                                                                North America
## 45:                                      Commonwealth of the Northern Mariana Islands
## 46:                                                                OECD members
## 47:                                                            Other small states
## 48:                                                   Pacific island small states
## 49:                                                             Republic of Palau
## 50:                                                                         Samoa
## 51:                                                        Republic of San Marino
## 52:                                                     Sint Maarten (Dutch part)
## 53:                                                                  Small states
## 54:                                                              Solomon Islands
## 55:                                                                    South Asia
## 56:                                                           St. Kitts and Nevis
## 57:                                                        St. Martin (French part)
## 58:                                          Sub-Saharan Africa (all income levels)
## 59:                                          Sub-Saharan Africa (developing only)
## 60:                                              Commonwealth of The Bahamas
## 61:                                                              Kingdom of Tonga
## 62:                                                     Turks and Caicos Islands
## 63:                                                                       Tuvalu
```

```
## 64:                                            Upper middle income
## 65:                                             Republic of Vanuatu
## 66:                             Virgin Islands of the United States
## 67:                                                           World
##                                                            LongName
##     Alpha2Code                CurrencyUnit
## 1:         AS                U.S. dollar
## 2:         AD                       Euro
## 3:         1A
## 4:         AW              Aruban florin
## 5:         BM             Bermuda dollar
## 6:         S3
## 7:         KY       Cayman Islands dollar
## 8:         B8
## 9:                        Pound sterling
## 10:        CW Netherlands Antillean guilder
## 11:        Z4
## 12:        4E
## 13:        XC
## 14:        Z7
## 15:        7E
## 16:        EU
## 17:        FO                Danish krone
## 18:        F1
## 19:        PF                   CFP franc
## 20:        GL                Danish krone
## 21:        GU                 U.S. dollar
## 22:        XE
## 23:        XD
## 24:        XR
## 25:        XS
## 26:        HK           Hong Kong dollar
## 27:        IM              Pound sterling
## 28:        KI           Australian dollar
## 29:                                  Euro
## 30:        ZJ
## 31:        XJ
## 32:        XL
## 33:        LI                 Swiss franc
## 34:        XO
## 35:        XM
## 36:        XN
## 37:        MO               Macao pataca
## 38:        MH                 U.S. dollar
## 39:        FM                 U.S. dollar
## 40:        ZQ
## 41:        XQ
## 42:        XP
## 43:        NC                   CFP franc
## 44:        XU
## 45:        MP                 U.S. dollar
## 46:        OE
## 47:        S4
## 48:        S2
```

```
## 49:         PW               U.S. dollar
## 50:         WS              Samoan tala
## 51:         SM                      Euro
## 52:         SX Netherlands Antillean guilder
## 53:         S1
## 54:         SB         Solomon Islands dollar
## 55:         8S
## 56:         KN          East Caribbean dollar
## 57:         MF                      Euro
## 58:         ZG
## 59:         ZF
## 60:         BS           Bahamian dollar
## 61:         TO           Tongan pa'anga
## 62:         TC               U.S. dollar
## 63:         TV          Australian dollar
## 64:         XT
## 65:         VU              Vanuatu vatu
## 66:         VI               U.S. dollar
## 67:         1W
##     Alpha2Code           CurrencyUnit
##
##  1:
##  2:
##  3:
##  4:
##  5:
##  6:
##  7:
##  8:
##  9:
## 10:
## 11:
## 12:
## 13:
## 14:
## 15:
## 16:
## 17:
## 18: Fragile situations aggregate. Note:  Countries with fragile situations are primarily Internationa
## 19:
## 20:
## 21:
## 22:
## 23:
## 24:
## 25:
## 26:
## 27:
## 28:
## 29:
## 30:
## 31:
## 32:
## 33:
```

```
## 34:
## 35:
## 36:
## 37:
## 38:
## 39:
## 40:
## 41:
## 42:
## 43:
## 44:
## 45:
## 46:
## 47:
## 48:
## 49:
## 50:
## 51:
## 52:
## 53:
## 54:
## 55:
## 56:
## 57:
## 58:
## 59:
## 60:
## 61:
## 62:
## 63:
## 64:
## 65:
## 66:
## 67:
##
##                              Region          IncomeGroup Wb2Code
##  1:       East Asia & Pacific  Upper middle income       AS
##  2:      Europe & Central Asia High income: nonOECD       AD
##  3:                                                       1A
##  4: Latin America & Caribbean High income: nonOECD       AW
##  5:             North America High income: nonOECD       BM
##  6:                                                       S3
##  7: Latin America & Caribbean High income: nonOECD       KY
##  8:                                                       B8
##  9:      Europe & Central Asia High income: nonOECD       JG
## 10: Latin America & Caribbean High income: nonOECD       CW
## 11:                                                       Z4
## 12:                                                       4E
## 13:                                                       XC
## 14:                                                       Z7
## 15:                                                       7E
## 16:                                                       EU
## 17:      Europe & Central Asia High income: nonOECD       F0
## 18:                                                       F1
```

```
## 19:        East Asia & Pacific High income: nonOECD      PF
## 20:    Europe & Central Asia High income: nonOECD      GL
## 21:        East Asia & Pacific High income: nonOECD      GU
## 22:                                                      XE
## 23:                                                      XD
## 24:                                                      XR
## 25:                                                      XS
## 26:        East Asia & Pacific High income: nonOECD      HK
## 27:    Europe & Central Asia High income: nonOECD      IM
## 28:        East Asia & Pacific  Lower middle income      KI
## 29:    Europe & Central Asia  Lower middle income      XK
## 30:                                                      ZJ
## 31:                                                      XJ
## 32:                                                      XL
## 33:    Europe & Central Asia High income: nonOECD      LI
## 34:                                                      XO
## 35:                                                      XM
## 36:                                                      XN
## 37:        East Asia & Pacific High income: nonOECD      MO
## 38:        East Asia & Pacific  Upper middle income      MH
## 39:        East Asia & Pacific  Lower middle income      FM
## 40:                                                      ZQ
## 41:                                                      XQ
## 42:                                                      XP
## 43:        East Asia & Pacific High income: nonOECD      NC
## 44:                                                      XU
## 45:        East Asia & Pacific High income: nonOECD      MP
## 46:                                                      OE
## 47:                                                      S4
## 48:                                                      S2
## 49:        East Asia & Pacific  Upper middle income      PW
## 50:        East Asia & Pacific  Lower middle income      WS
## 51:    Europe & Central Asia High income: nonOECD      SM
## 52: Latin America & Caribbean High income: nonOECD      SX
## 53:                                                      S1
## 54:        East Asia & Pacific  Lower middle income      SB
## 55:                                                      8S
## 56: Latin America & Caribbean High income: nonOECD      KN
## 57: Latin America & Caribbean High income: nonOECD      MF
## 58:                                                      ZG
## 59:                                                      ZF
## 60: Latin America & Caribbean High income: nonOECD      BS
## 61:        East Asia & Pacific  Upper middle income      TO
## 62: Latin America & Caribbean High income: nonOECD      TC
## 63:        East Asia & Pacific  Upper middle income      TV
## 64:                                                      XT
## 65:        East Asia & Pacific  Lower middle income      VU
## 66: Latin America & Caribbean High income: nonOECD      VI
## 67:                                                      1W
##                    Region        IncomeGroup Wb2Code
##                      NationalAccountsBaseYear
##  1:
##  2:                                       2000
##  3:
```

```
##  4:                                                         2000
##  5:                                                         2006
##  6:
##  7:                                                         2007
##  8:
##  9:                                                         2003
## 10:
## 11:
## 12:
## 13:
## 14:
## 15:
## 16:
## 17:
## 18:
## 19:                                                         1990
## 20:                                                         1990
## 21:
## 22:
## 23:
## 24:
## 25:
## 26: Original chained constant price data are rescaled.
## 27:                                                         2003
## 28:                                                         2006
## 29:                                                         2008
## 30:
## 31:
## 32:
## 33:                                                         1990
## 34:
## 35:
## 36:
## 37:                                                         2012
## 38:                                                      2003/04
## 39:                                                      2003/04
## 40:
## 41:
## 42:
## 43:                                                         1990
## 44:
## 45:
## 46:
## 47:
## 48:
## 49:                                                      2004/05
## 50:                                                      2008/09
## 51:                                                         1995
## 52:
## 53:
## 54:                                                         2004
## 55:
## 56:                                                         2006
## 57:
```

```
## 58:
## 59:
## 60:                                                          2006
## 61:                                                       2010/11
## 62:
## 63:                                                          2005
## 64:
## 65:                                                          2006
## 66:                                                          1982
## 67:
##                                        NationalAccountsBaseYear
##       NationalAccountsReferenceYear              SnaPriceValuation
##   1:
##   2:                                 Value added at basic prices (VAB)
##   3:
##   4:                                 Value added at basic prices (VAB)
##   5:                                 Value added at basic prices (VAB)
##   6:
##   7:
##   8:
##   9:                            2007 Value added at basic prices (VAB)
## 10:
## 11:
## 12:
## 13:
## 14:
## 15:
## 16:
## 17:                                 Value added at basic prices (VAB)
## 18:
## 19:
## 20:
## 21:
## 22:
## 23:
## 24:
## 25:
## 26:                            2013 Value added at basic prices (VAB)
## 27:
## 28:                                 Value added at basic prices (VAB)
## 29:                                 Value added at basic prices (VAB)
## 30:
## 31:
## 32:
## 33:                                 Value added at basic prices (VAB)
## 34:
## 35:
## 36:
## 37:                                 Value added at basic prices (VAB)
## 38:                                 Value added at basic prices (VAB)
## 39:                                 Value added at basic prices (VAB)
## 40:
## 41:
## 42:
```

```
## 43:
## 44:
## 45:
## 46:
## 47:
## 48:
## 49:                               Value added at basic prices (VAB)
## 50:                               Value added at basic prices (VAB)
## 51:                          2000 Value added at basic prices (VAB)
## 52:
## 53:
## 54:                               Value added at basic prices (VAB)
## 55:
## 56:                               Value added at basic prices (VAB)
## 57:
## 58:
## 59:
## 60:                               Value added at basic prices (VAB)
## 61:                               Value added at basic prices (VAB)
## 62:
## 63:                               Value added at basic prices (VAB)
## 64:
## 65:                               Value added at basic prices (VAB)
## 66:
## 67:
##    NationalAccountsReferenceYear                 SnaPriceValuation
##    LendingCategory OtherGroups
##  1:
##  2:
##  3:
##  4:
##  5:
##  6:
##  7:
##  8:
##  9:
## 10:
## 11:
## 12:
## 13:
## 14:
## 15:
## 16:
## 17:
## 18:
## 19:
## 20:
## 21:
## 22:
## 23:
## 24:
## 25:
## 26:
## 27:
```

```
## 28:              IDA
## 29:              IDA
## 30:
## 31:
## 32:
## 33:
## 34:
## 35:
## 36:
## 37:
## 38:              IDA
## 39:              IDA
## 40:
## 41:
## 42:
## 43:
## 44:
## 45:
## 46:
## 47:
## 48:
## 49:           IBRD
## 50:              IDA
## 51:
## 52:
## 53:
## 54:              IDA
## 55:
## 56:           IBRD
## 57:
## 58:
## 59:
## 60:
## 61:              IDA
## 62:
## 63:              IDA
## 64:
## 65:              IDA
## 66:
## 67:
##     LendingCategory OtherGroups
##                                       SystemOfNationalAccounts
##  1: Country uses the 1968 System of National Accounts methodology.
##  2: Country uses the 1968 System of National Accounts methodology.
##  3:
##  4: Country uses the 1993 System of National Accounts methodology.
##  5: Country uses the 1993 System of National Accounts methodology.
##  6:
##  7: Country uses the 1993 System of National Accounts methodology.
##  8:
##  9: Country uses the 1968 System of National Accounts methodology.
## 10: Country uses the 1993 System of National Accounts methodology.
## 11:
## 12:
```

```
## 13:
## 14:
## 15:
## 16:
## 17: Country uses the 1993 System of National Accounts methodology.
## 18:
## 19: Country uses the 1993 System of National Accounts methodology.
## 20: Country uses the 1993 System of National Accounts methodology.
## 21: Country uses the 1993 System of National Accounts methodology.
## 22:
## 23:
## 24:
## 25:
## 26: Country uses the 2008 System of National Accounts methodology.
## 27: Country uses the 1968 System of National Accounts methodology.
## 28: Country uses the 1993 System of National Accounts methodology.
## 29: Country uses the 1993 System of National Accounts methodology.
## 30:
## 31:
## 32:
## 33: Country uses the 1993 System of National Accounts methodology.
## 34:
## 35:
## 36:
## 37: Country uses the 1993 System of National Accounts methodology.
## 38: Country uses the 1968 System of National Accounts methodology.
## 39: Country uses the 1993 System of National Accounts methodology.
## 40:
## 41:
## 42:
## 43: Country uses the 1993 System of National Accounts methodology.
## 44:
## 45: Country uses the 1968 System of National Accounts methodology.
## 46:
## 47:
## 48:
## 49: Country uses the 1993 System of National Accounts methodology.
## 50: Country uses the 1993 System of National Accounts methodology.
## 51: Country uses the 1993 System of National Accounts methodology.
## 52: Country uses the 1993 System of National Accounts methodology.
## 53:
## 54: Country uses the 1993 System of National Accounts methodology.
## 55:
## 56: Country uses the 1993 System of National Accounts methodology.
## 57: Country uses the 1993 System of National Accounts methodology.
## 58:
## 59:
## 60: Country uses the 1993 System of National Accounts methodology.
## 61: Country uses the 1993 System of National Accounts methodology.
## 62: Country uses the 1993 System of National Accounts methodology.
## 63: Country uses the 1968 System of National Accounts methodology.
## 64:
## 65: Country uses the 1993 System of National Accounts methodology.
## 66: Country uses the 1968 System of National Accounts methodology.
```

```
## 67:
##                                                  SystemOfNationalAccounts
##      AlternativeConversionFactor                          PppSurveyYear
##  1:                                  2011 (household consumption only).
##  2:
##  3:
##  4:                                                                 2011
##  5:                                                                 2011
##  6:
##  7:                                                                 2011
##  8:
##  9:
## 10:                                                                 2011
## 11:
## 12:
## 13:
## 14:
## 15:
## 16:
## 17:
## 18:
## 19:                                  2011 (household consumption only).
## 20:
## 21:                                  2011 (household consumption only).
## 22:
## 23:
## 24:
## 25:
## 26:                                                                 2011
## 27:
## 28:                                  2011 (household consumption only).
## 29:
## 30:
## 31:
## 32:
## 33:
## 34:
## 35:
## 36:
## 37:                                                                 2011
## 38:                                  2011 (household consumption only).
## 39:                                  2011 (household consumption only).
## 40:
## 41:
## 42:
## 43:                                  2011 (household consumption only).
## 44:
## 45:                                  2011 (household consumption only).
## 46:
## 47:
## 48:
## 49:                                  2011 (household consumption only).
## 50:                                  2011 (household consumption only).
## 51:
```

```
## 52:                                                          2011
## 53: 
## 54:                             2011 (household consumption only).
## 55: 
## 56:                                                          2011
## 57: 
## 58: 
## 59: 
## 60:                                                          2011
## 61:                             2011 (household consumption only).
## 62:                                                          2011
## 63:                             2011 (household consumption only).
## 64: 
## 65:                             2011 (household consumption only).
## 66: 
## 67: 
##       AlternativeConversionFactor                    PppSurveyYear
##                   BalanceOfPaymentsManualInUse
##   1: 
##   2: 
##   3: 
##   4: IMF Balance of Payments Manual, 6th edition.
##   5: IMF Balance of Payments Manual, 6th edition.
##   6: 
##   7: 
##   8: 
##   9: 
## 10: 
## 11: 
## 12: 
## 13: 
## 14: 
## 15: 
## 16: 
## 17: IMF Balance of Payments Manual, 6th edition.
## 18: 
## 19: 
## 20: 
## 21: 
## 22: 
## 23: 
## 24: 
## 25: 
## 26: IMF Balance of Payments Manual, 6th edition.
## 27: 
## 28: IMF Balance of Payments Manual, 6th edition.
## 29: 
## 30: 
## 31: 
## 32: 
## 33: 
## 34: 
## 35: 
## 36: 
```

```
## 37: IMF Balance of Payments Manual, 6th edition.
## 38:
## 39:
## 40:
## 41:
## 42:
## 43:
## 44:
## 45:
## 46:
## 47:
## 48:
## 49:
## 50: IMF Balance of Payments Manual, 6th edition.
## 51:
## 52:
## 53:
## 54: IMF Balance of Payments Manual, 6th edition.
## 55:
## 56: IMF Balance of Payments Manual, 6th edition.
## 57:
## 58:
## 59:
## 60: IMF Balance of Payments Manual, 6th edition.
## 61: IMF Balance of Payments Manual, 6th edition.
## 62:
## 63:
## 64:
## 65: IMF Balance of Payments Manual, 6th edition.
## 66:
## 67:
##                         BalanceOfPaymentsManualInUse
##     ExternalDebtReportingStatus        SystemOfTrade
##  1:                               Special trade system
##  2:                               Special trade system
##  3:
##  4:                               Special trade system
##  5:                               General trade system
##  6:
##  7:                               General trade system
##  8:
##  9:
## 10:
## 11:
## 12:
## 13:
## 14:
## 15:
## 16:
## 17:                               General trade system
## 18:
## 19:                               Special trade system
## 20:                               General trade system
## 21:                               General trade system
```

23

```
## 22:
## 23:
## 24:
## 25:
## 26:                                         General trade system
## 27:
## 28:                                         General trade system
## 29:                         Actual
## 30:
## 31:
## 32:
## 33:                                         Special trade system
## 34:
## 35:
## 36:
## 37:                                         General trade system
## 38:                                         General trade system
## 39:
## 40:
## 41:
## 42:
## 43:                                         Special trade system
## 44:
## 45:
## 46:
## 47:
## 48:
## 49:                                          Special trade system
## 50:                             Actual Special trade system
## 51:
## 52:
## 53:
## 54:                          Estimate Special trade system
## 55:
## 56:                                          Special trade system
## 57:
## 58:
## 59:
## 60:                                           General trade system
## 61:                              Actual General trade system
## 62:                                           General trade system
## 63:                                           General trade system
## 64:
## 65:                           Estimate General trade system
## 66:                                           General trade system
## 67:
##      ExternalDebtReportingStatus         SystemOfTrade
##          GovernmentAccountingConcept
##   1:
##   2:
##   3:
##   4:
##   5:
##   6:
```

```
##  7:
##  8:
##  9:
## 10:
## 11:
## 12:
## 13:
## 14:
## 15:
## 16:
## 17:
## 18:
## 19:
## 20:
## 21:
## 22:
## 23:
## 24:
## 25:
## 26: Consolidated central government
## 27:
## 28:     Budgetary central government
## 29:
## 30:
## 31:
## 32:
## 33:
## 34:
## 35:
## 36:
## 37: Consolidated central government
## 38:
## 39:
## 40:
## 41:
## 42:
## 43:
## 44:
## 45:
## 46:
## 47:
## 48:
## 49:
## 50:     Budgetary central government
## 51: Consolidated central government
## 52:
## 53:
## 54:
## 55:
## 56:     Budgetary central government
## 57:
## 58:
## 59:
## 60:     Budgetary central government
```

```
## 61:
## 62:
## 63:
## 64:
## 65:      Budgetary central government
## 66:
## 67:
##              GovernmentAccountingConcept
##                        ImfDataDisseminationStandard
##   1:
##   2:
##   3:
##   4:
##   5:
##   6:
##   7:
##   8:
##   9:
## 10:
## 11:
## 12:
## 13:
## 14:
## 15:
## 16:
## 17:
## 18:
## 19:
## 20:
## 21:
## 22:
## 23:
## 24:
## 25:
## 26: Special Data Dissemination Standard (SDDS)
## 27:
## 28:    General Data Dissemination System (GDDS)
## 29:    General Data Dissemination System (GDDS)
## 30:
## 31:
## 32:
## 33:
## 34:
## 35:
## 36:
## 37:    General Data Dissemination System (GDDS)
## 38:    General Data Dissemination System (GDDS)
## 39:    General Data Dissemination System (GDDS)
## 40:
## 41:
## 42:
## 43:
## 44:
## 45:
```

```
## 46:
## 47:
## 48:
## 49:    General Data Dissemination System (GDDS)
## 50:    General Data Dissemination System (GDDS)
## 51:    General Data Dissemination System (GDDS)
## 52:
## 53:
## 54:    General Data Dissemination System (GDDS)
## 55:
## 56:    General Data Dissemination System (GDDS)
## 57:
## 58:
## 59:
## 60:    General Data Dissemination System (GDDS)
## 61:    General Data Dissemination System (GDDS)
## 62:
## 63:    General Data Dissemination System (GDDS)
## 64:
## 65:    General Data Dissemination System (GDDS)
## 66:
## 67:
##                        ImfDataDisseminationStandard
##                                        LatestPopulationCensus
## 1:                                                     2010
## 2: 2011. Population data compiled from administrative registers.
## 3:
## 4:                                                     2010
## 5:                                                     2010
## 6:
## 7:                                                     2010
## 8:
## 9:                        Guernsey: 2009; Jersey: 2011.
## 10:                                                    2011
## 11:
## 12:
## 13:
## 14:
## 15:
## 16:
## 17:                                                    2011
## 18:
## 19:                                                    2007
## 20:                                                    2010
## 21:                                                    2010
## 22:
## 23:
## 24:
## 25:
## 26:                                                    2011
## 27:                                                    2011
## 28:                                                    2010
## 29:                                                    2011
## 30:
```

```
## 31:
## 32:
## 33:                                                         2010
## 34:
## 35:
## 36:
## 37:                                                         2011
## 38:                                                         2011
## 39:                                                         2010
## 40:
## 41:
## 42:
## 43:                                                         2009
## 44:
## 45:                                                         2010
## 46:
## 47:
## 48:
## 49:                                                         2010
## 50:                                                         2011
## 51:                                                         2010
## 52:                                                         2011
## 53:
## 54:                                                         2009
## 55:
## 56:                                                         2011
## 57:
## 58:
## 59:
## 60:                                                         2010
## 61:                                                         2006
## 62:                                                         2012
## 63:                                                         2012
## 64:
## 65:                                                         2009
## 66:                                                         2010
## 67:
##                                          LatestPopulationCensus
##                                                 LatestHouseholdSurvey
##  1:
##  2:
##  3:
##  4:
##  5:
##  6:
##  7:
##  8:
##  9:
## 10:
## 11:
## 12:
## 13:
## 14:
## 15:
```

```
## 16:
## 17:
## 18:
## 19:
## 20:
## 21:
## 22:
## 23:
## 24:
## 25:
## 26:
## 27:
## 28:                               Kiribati Demographic and Health Survey (KDHS), 2009
## 29:                                  Multiple Indicator Cluster Survey (MICS), 2013/14
## 30:
## 31:
## 32:
## 33:
## 34:
## 35:
## 36:
## 37:
## 38: Republic of the Marshall Islands Demographic and Health Survey (RMIDHS), 2007
## 39:
## 40:
## 41:
## 42:
## 43:
## 44:
## 45:
## 46:
## 47:
## 48:
## 49:
## 50:                                           Demographic and Health Survey (DHS), 2009
## 51:
## 52:
## 53:
## 54:
## 55:
## 56:
## 57:
## 58:
## 59:
## 60:
## 61:
## 62:
## 63:
## 64:
## 65:                                     Multiple Indicator Cluster Survey (MICS), 2007
## 66:
## 67:
##                                                             LatestHouseholdSurvey
##      SourceOfMostRecentIncomeAndExpenditureData
```

```
##  1:
##  2:
##  3:
##  4:
##  5:
##  6:
##  7:
##  8:
##  9:
## 10:
## 11:
## 12:
## 13:
## 14:
## 15:
## 16:
## 17:
## 18:
## 19:
## 20:
## 21:
## 22:
## 23:
## 24:
## 25:
## 26:
## 27:
## 28:
## 29:      Integrated household survey (IHS), 2011
## 30:
## 31:
## 32:
## 33:
## 34:
## 35:
## 36:
## 37:
## 38:      Integrated household survey (IHS), 1999
## 39:      Integrated household survey (IHS), 2000
## 40:
## 41:
## 42:
## 43:
## 44:
## 45:
## 46:
## 47:
## 48:
## 49:
## 50:
## 51:
## 52:
## 53:
## 54: Integrated household survey (IHS), 2005/06
```

```
## 55:
## 56:
## 57:
## 58:
## 59:
## 60:
## 61:
## 62:
## 63:
## 64:
## 65:
## 66:
## 67:
##      SourceOfMostRecentIncomeAndExpenditureData
##                            VitalRegistrationComplete
##  1:                                             Yes
##  2:                                             Yes
##  3:
##  4:                                             Yes
##  5:                                             Yes
##  6:
##  7:                                             Yes
##  8:
##  9: Yes. Vital registration for Guernsey and Jersey.
## 10:                                             Yes
## 11:
## 12:
## 13:
## 14:
## 15:
## 16:
## 17:                                             Yes
## 18:
## 19:                                             Yes
## 20:                                             Yes
## 21:                                             Yes
## 22:
## 23:
## 24:
## 25:
## 26:                                             Yes
## 27:                                             Yes
## 28:
## 29:
## 30:
## 31:
## 32:
## 33:                                             Yes
## 34:
## 35:
## 36:
## 37:                                             Yes
## 38:
## 39:
```

```
## 40:
## 41:
## 42:
## 43:                                                       Yes
## 44:
## 45:
## 46:
## 47:
## 48:
## 49:                                                       Yes
## 50:
## 51:                                                       Yes
## 52:                                                       Yes
## 53:
## 54:
## 55:
## 56:                                                       Yes
## 57:
## 58:
## 59:
## 60:
## 61:
## 62:                                                       Yes
## 63:
## 64:
## 65:
## 66:                                                       Yes
## 67:
##                              VitalRegistrationComplete
##         LatestAgriculturalCensus LatestIndustrialData
##   1:                         2007                   NA
##   2:                                                 NA
##   3:                                                 NA
##   4:                                                 NA
##   5:                                                 NA
##   6:                                                 NA
##   7:                                                 NA
##   8:                                                 NA
##   9:                                                 NA
## 10:                                               2010
## 11:                                                 NA
## 12:                                                 NA
## 13:                                                 NA
## 14:                                                 NA
## 15:                                                 NA
## 16:                                                 NA
## 17:                                                 NA
## 18:                                                 NA
## 19:                                                 NA
## 20:                                                 NA
## 21:                         2007                   NA
## 22:                                                 NA
## 23:                                                 NA
## 24:                                                 NA
```

```
## 25:                                                      NA
## 26:                                                      2011
## 27:                                                      NA
## 28:                                                      NA
## 29:                                                      NA
## 30:                                                      NA
## 31:                                                      NA
## 32:                                                      NA
## 33:                                                      NA
## 34:                                                      NA
## 35:                                                      NA
## 36:                                                      NA
## 37:                                                      2011
## 38: 2011. Population and Housing Census.                 NA
## 39:                                                      NA
## 40:                                                      NA
## 41:                                                      NA
## 42:                                                      NA
## 43:                                                      NA
## 44:                                                      NA
## 45:                                            2007       NA
## 46:                                                      NA
## 47:                                                      NA
## 48:                                                      NA
## 49:                                                      NA
## 50:                                            2009       NA
## 51:                                                      NA
## 52:                                                      NA
## 53:                                                      NA
## 54:                                         2012/13       NA
## 55:                                                      NA
## 56:                                                      NA
## 57:                                                      NA
## 58:                                                      NA
## 59:                                                      NA
## 60:                                                      NA
## 61:                                                      NA
## 62:                                                      NA
## 63:                                                      NA
## 64:                                                      NA
## 65:                                            2007       NA
## 66:                                            2007       NA
## 67:                                                      NA
##             LatestAgriculturalCensus LatestIndustrialData
##     LatestTradeData LatestWaterWithdrawalData
## 1:              NA                        NA
## 2:            2006                        NA
## 3:              NA                        NA
## 4:            2012                        NA
## 5:            2013                        NA
## 6:              NA                        NA
## 7:              NA                        NA
## 8:              NA                        NA
## 9:              NA                        NA
```

33

```
## 10:                NA                        NA
## 11:                NA                        NA
## 12:                NA                        NA
## 13:                NA                        NA
## 14:                NA                        NA
## 15:                NA                        NA
## 16:                NA                        NA
## 17:              2009                        NA
## 18:                NA                        NA
## 19:              2013                        NA
## 20:              2013                        NA
## 21:                NA                        NA
## 22:                NA                        NA
## 23:                NA                        NA
## 24:                NA                        NA
## 25:                NA                        NA
## 26:              2012                        NA
## 27:                NA                        NA
## 28:              2012                        NA
## 29:                NA                        NA
## 30:                NA                        NA
## 31:                NA                        NA
## 32:                NA                        NA
## 33:                NA                        NA
## 34:                NA                        NA
## 35:                NA                        NA
## 36:                NA                        NA
## 37:              2012                        NA
## 38:                NA                        NA
## 39:                NA                        NA
## 40:                NA                        NA
## 41:                NA                        NA
## 42:                NA                        NA
## 43:              2012                        NA
## 44:                NA                        NA
## 45:                NA                        NA
## 46:                NA                        NA
## 47:                NA                        NA
## 48:                NA                        NA
## 49:              2012                        NA
## 50:              2013                        NA
## 51:                NA                        NA
## 52:                NA                        NA
## 53:                NA                        NA
## 54:              2013                        NA
## 55:                NA                        NA
## 56:              2011                        NA
## 57:                NA                        NA
## 58:                NA                        NA
## 59:                NA                        NA
## 60:              2013                        NA
## 61:              2012                        NA
## 62:              2012                        NA
## 63:              2008                        NA
```

```
## 64:             NA             NA
## 65:           2011             NA
## 66:             NA             NA
## 67:             NA             NA
##     LatestTradeData LatestWaterWithdrawalData
```

All the NA values of the "a" with respect to data set "cc" are stored in b.

```
mean(cc$LatestWaterWithdrawalData)
```

```
## [1] NA
```

Here we got the value as NA, because the majority of the values are NA.

```
mean(cc$LatestWaterWithdrawalData, na.rm = TRUE)
```

```
## [1] 2003.983
```

Here we have removed the NA values stating the "na.rm=TRUE" and claculated the mean of the column

```
b$LatestWaterWithdrawalData <- mean(cc$LatestWaterWithdrawalData, na.rm = TRUE)
```

```
## Warning in `[<-.data.table`(x, j = name, value = value): Coerced double
## RHS to integer to match the type of the target column (column 31 named
## 'LatestWaterWithdrawalData'). One or more RHS values contain fractions
## which have been lost; e.g. item 1 with value 2003.983333 has been truncated
## to 2003.
```

As the values of b are in integer and values of mean of column it is pointing out error.So, we convert the value of mean of column to integer

```
b$LatestWaterWithdrawalData <- as.integer(mean(cc$LatestWaterWithdrawalData, na.rm = TRUE))
```

Hence the values of mean of coulmn has replaced instead of null values

```
cc[a, ] <- b
sum(is.na(cc))
```

```
## [1] 195
```

Therefore, the total null values of the column have been replaced and sum of NA in the data set has been reduced to 195

If we want replace with median we can use the beolw code

```
#     cc$LatestWaterWithdrawalData[is.na(cc$LatestWaterWithdrawalData)] <- median(cc$LatestWaterWithdraw
```

Replacing the NA values in cloumn with the median value of the cloumn