

Package ‘r02pro’

October 14, 2022

Title R Programming: Zero to Pro

Version 0.1

Description This is a companion package of the book “R Programming: Zero to Pro” <<https://r02pro.github.io/>>. It contains the datasets used in the book and provides interactive exercises corresponding to the book. It covers a wide range of topics including visualization, data transformation, tidying data, data input and output.

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URL <https://r02pro.github.io/>

Encoding UTF-8

Depends R (>= 3.5.0)

RoxygenNote 7.1.1

Imports learnr

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ahp

Ames Housing Price data.

Description

A dataset of 2048 houses in Ames, Iowa from 2006 to 2010, with 56 features including the sale date and price.

Usage

ahp

Format

A data frame with variables:

dt_sold Date Sold

yr_sold Year Sold

mo_sold Month Sold

yr_built Original construction date

yr_remodel Remodel date (same as construction date if no remodeling or additions)

bldg_class The building class

- 20: 1-STORY 1946 & NEWER ALL STYLES
- 30: 1-STORY 1945 & OLDER
- 40: 1-STORY W/FINISHED ATTIC ALL AGES
- 45: 1-1/2 STORY - UNFINISHED ALL AGES
- 50: 1-1/2 STORY FINISHED ALL AGES
- 60: 2-STORY 1946 & NEWER
- 70: 2-STORY 1945 & OLDER
- 75: 2-1/2 STORY ALL AGES
- 80: SPLIT OR MULTI-LEVEL
- 85: SPLIT FOYER
- 90: DUPLEX - ALL STYLES AND AGES
- 120: 1-STORY PUD (Planned Unit Development) - 1946 & NEWER
- 150: 1-1/2 STORY PUD - ALL AGES
- 160: 2-STORY PUD - 1946 & NEWER
- 180: PUD - MULTILEVEL - INCL SPLIT LEV/FOYER
- 190: 2 FAMILY CONVERSION - ALL STYLES AND AGES

bldg_type Type of dwelling

- 1Fam: Single-family Detached
- 2FmCon: Two-family Conversion; originally built as one-family dwelling
- Duplx: Duplex

- TwnhsE: Townhouse End Unit
- TwnhsI: Townhouse Inside Unit

house_style Style of dwelling

- 1Story: One story
- 1.5Fin: One and one-half story: 2nd level finished
- 1.5Unf: One and one-half story: 2nd level unfinished
- 2Story: Two story
- 2.5Fin: Two and one-half story: 2nd level finished
- 2.5Unf: Two and one-half story: 2nd level unfinished
- SFoyer: Split Foyer
- SLvl: Split Level

zoning Identifies the general zoning classification of the sale

- A: Agriculture
- C: Commercial
- FV: Floating Village Residential
- I: Industrial
- RH: Residential High Density
- RL: Residential Low Density
- RP: Residential Low Density Park
- RM: Residential Medium Density

neighborhd Physical locations within Ames city limits

- Blmngtn: Bloomington Heights
- Blueste: Bluestem
- BrDale: Briardale
- BrkSide: Brookside
- ClearCr: Clear Creek
- CollgCr: College Creek
- Crawfor: Crawford
- Edwards: Edwards
- Gilbert: Gilbert
- IDOTRR: Iowa DOT and Rail Road
- MeadowV: Meadow Village
- Mitchel: Mitchell
- Names: North Ames
- NoRidge: Northridge
- NPkVill: Northpark Villa
- NridgHt: Northridge Heights
- NWAmes: Northwest Ames
- OldTown: Old Town
- SWISU: South & West of Iowa State University
- Sawyer: Sawyer

- SawyerW: SawyerW
- Somerst: Somerset
- StoneBr: Stone Brook
- Timber: Timberland
- Veenker: Veenker

oa_cond Overall condition rating

- 10: Very Excellent
- 9: Excellent
- 8: Very Good
- 7: Good
- 6: Above Average
- 5: Average
- 4: Below Average
- 3: Fair
- 2: Poor
- 1: Very Poor

oa_qual Overall material and finish quality

- 10: Very Excellent
- 9: Excellent
- 8: Very Good
- 7: Good
- 6: Above Average
- 5: Average
- 4: Below Average
- 3: Fair
- 2: Poor
- 1: Very Poor

func Home functionality rating

- Typ: Typical Functionality
- Min1: Minor Deductions 1
- Min2: Minor Deductions 2
- Mod: Moderate Deductions
- Maj1: Major Deductions 1
- Maj2: Major Deductions 2
- Sev: Severely Damaged
- Sal: Salvage only

liv_area living area square feet

1fl_area First Floor square feet

2fl_area Second floor square feet

tot_rms Total rooms

bedroom Number of bedrooms

bathroom Number of bathrooms

kit Number of kitchens

kit_qual Kitchen quality

central_air Central air conditioning

- N: No
- Y: Yes

elect Electrical system

- SBkr: Standard Circuit Breakers & Romex
- FuseA: Fuse Box over 60 AMP and all Romex wiring (Average)
- FuseF: 60 AMP Fuse Box and mostly Romex wiring (Fair)
- FuseP: 60 AMP Fuse Box and mostly knob & tube wiring (poor)
- Mix: Mixed

bsmt_area Total square feet of basement area

bsmt_cond General condition of the basement

bsmt_exp Walkout or garden level basement walls

- Gd: Good Exposure
- Av: Average Exposure (split levels or foyers typically score average or above)
- Mn: Minimum Exposure
- No: No Exposure
- NA: No Basement

bsmt_ht Height of the basement

- Excellent: 100+ inches
- Good: 90-99 inches
- Average: 80-89 inches
- Fair: 70-79 inches
- Poor: <70 inches
- NA: No Basement

bsmt_fin_qual Quality of basement finished area

- GLQ: Good Living Quarters
- ALQ: Average Living Quarters
- BLQ: Below Average Living Quarters
- Rec: Average Rec Room
- LwQ: Low Quality
- Unf: Unfinished
- NA: No Basement

ext_cond Present condition of the material on the exterior

ext_cover Exterior covering on house

- AsbShng: Asbestos Shingles
- AsphShn: Asphalt Shingles
- BrkComm: Brick Common

- BrkFace: Brick Face
- CBlock: Cinder Block
- CemntBd: Cement Board
- HdBoard: Hard Board
- ImStucc: Imitation Stucco
- MetalSd: Metal Siding
- Other: Other
- Plywood: Plywood
- PreCast: PreCast
- Stone: Stone
- Stucco: Stucco
- VinylSd: Vinyl Siding
- Wd Sdng: Wood Siding
- WdShing: Wood Shingles

ext_qual Exterior material quality

fdn Type of foundation

- BrkTil: Brick & Tile
- CBlock: Cinder Block
- PConc: Poured Concrete
- Slab: Slab
- Stone: Stone
- Wood: Wood

fence Fence quality

- GdPrv: Good Privacy
- MnPrv: Minimum Privacy
- GdWo: Good Wood
- MnWw: Minimum Wood/Wire
- NA: No Fence

fp Number of fireplaces

fp_qual Fireplace quality

gar_area Size of garage in square feet

gar_car Size of garage in car capacity

gar_cond Garage condition

gar_fin Interior finish of the garage

- Fin: Finished
- RFn: Rough Finished
- Unf: Unfinished
- NA: No Garage

gar_qual Garage quality

gar_type Garage location

- 2Types: More than one type of garage
- Atchd: Attached to home
- Basment: Basement Garage
- BuiltIn: Built-In (Garage part of house - typically has room above garage)
- CarPort: Car Port
- Detchd: Detached from home
- NA: No Garage

gar_yr Year garage was built

heat_qual Heating quality and condition

land_contour Flatness of the property

- Lvl: Near Flat/Level
- Bnk: Banked - Quick and significant rise from street grade to building
- HLS: Hillside - Significant slope from side to side
- Low: Depression

land_slope Slope of property

- Gtl: Gentle slope
- Mod: Moderate Slope
- Sev: Severe Slope

lot_area Lot size in square feet

lot_config Lot configuration

- Inside: Inside lot
- Corner: Corner lot
- CulDSac: Cul-de-sac
- FR2: Frontage on 2 sides of property
- FR3: Frontage on 3 sides of property

lot_frontage Linear feet of street connected to property

lot_shape General shape of lot

- Reg: Regular
- IR1: Slightly irregular
- IR2: Moderately Irregular
- IR3: Irregular

pave_dr Paved driveway

- Y: Paved
- P: Partial Pavement
- N: Dirt/Gravel

roof_matl Roof material

- ClyTile: Clay or Tile
- CompShg: Standard (Composite) Shingle
- Membran: Membrane
- Metal: Metal

- Roll: Roll
- Tar&Grv: Gravel & Tar
- WdShake: Wood Shakes
- WdShngl: Wood Shingles

roof_style Type of roof

- Flat: Flat
- Gable: Gable
- Gambrel: Gabrel (Barn)
- Hip: Hip
- Mansard: Mansard
- Shed: Shed

op_area Open porch area in square feet

ep_area Enclosed porch area in square feet

wd_area Wood deck area in square feet

sale_price The property's sale price in thousand dollars

Source

The original data comes from <https://www.kaggle.com/c/house-prices-advanced-regression-techniques>. Some data cleaning were applied.

r02pro

Do the interactive exercises

Description

This function provides interactive exercises for each lesson corresponding to each subsection of the book "R Programming: Zero to Pro"

Usage

```
r02pro(id)
```

Arguments

`id` the index of the lesson

Value

This function is an interactive exercise. Hence, no value returned.

Examples

```
#Do the exercise for Section 1.1  
## Not run: r02pro(1.1)
```

sahp

Small Version of Ames Housing Price data.

Description

The small version of Ames Housing Price data of 165 observations, with 12 features including the sale date and price.

Usage

sahp

Format

A data frame with 165 observations and 12 features:

dt_sold Date Sold

bedroom Number of bedrooms

bathroom Number of bathrooms

gar_car Size of garage in car capacity

oa_qual Overall material and finish quality

- 10: Very Excellent
- 9: Excellent
- 8: Very Good
- 7: Good
- 6: Above Average
- 5: Average
- 4: Below Average
- 3: Fair
- 2: Poor
- 1: Very Poor

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lot_area Lot size in square feet

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- SLvl: Split Level

kit_qual Kitchen quality

heat_qual Heating quality and condition

central_air Central air conditioning

- N: No
- Y: Yes

sale_price The property's sale price in thousand dollars

Source

The original data comes from <https://www.kaggle.com/c/house-prices-advanced-regression-techniques>.
Some data cleaning were applied.

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