Dataset for the model

2022-09-19

R Dataset

This dataset comprises of all the 10 scenarios merged columns and rows

A pipe junction node is used to transfer water from one place to another. It can be used to represent a pump station in water supply system.

data labels, features

```
library(readr)
ops_data <- read_csv("ops_data.csv")
```

```
## New names:
## Rows: 175200 Columns: 99
## -- Column specification
## -------------------------------------------------------- Delimiter: "," dbl
## (99): ...1, Demand_Node_1, Demand_Node_2, Demand_Node_3, Demand_Node_4, ...
## i Use `spec()` to retrieve the full column specification for this data. i
## Specify the column types or set `show_col_types = FALSE` to quiet this message.
## * `` -> `...1`
```

```
names(ops_data)
```

```
##  [1] "...1"             "Demand_Node_1"    "Demand_Node_2"    "Demand_Node_3"
##  [5] "Demand_Node_4"    "Demand_Node_5"    "Demand_Node_6"    "Demand_Node_7"
##  [9] "Demand_Node_8"    "Demand_Node_9"    "Demand_Node_10"   "Demand_Node_11"
## [13] "Demand_Node_12"   "Demand_Node_13"   "Demand_Node_14"   "Demand_Node_15"
## [17] "Demand_Node_16"   "Demand_Node_17"   "Demand_Node_18"   "Demand_Node_19"
## [21] "Demand_Node_20"   "Demand_Node_21"   "Demand_Node_22"   "Demand_Node_23"
## [25] "Demand_Node_24"   "Demand_Node_25"   "Demand_Node_26"   "Demand_Node_27"
## [29] "Demand_Node_28"   "Demand_Node_29"   "Demand_Node_30"   "Demand_Node_31"
## [33] "Demand_Node_32"   "Flow_Link_1"      "Flow_Link_2"      "Flow_Link_3"
## [37] "Flow_Link_4"      "Flow_Link_5"      "Flow_Link_6"      "Flow_Link_7"
## [41] "Flow_Link_8"      "Flow_Link_9"      "Flow_Link_10"     "Flow_Link_11"
## [45] "Flow_Link_12"     "Flow_Link_13"     "Flow_Link_14"     "Flow_Link_15"
## [49] "Flow_Link_16"     "Flow_Link_17"     "Flow_Link_18"     "Flow_Link_19"
## [53] "Flow_Link_20"     "Flow_Link_21"     "Flow_Link_22"     "Flow_Link_23"
## [57] "Flow_Link_24"     "Flow_Link_25"     "Flow_Link_26"     "Flow_Link_27"
## [61] "Flow_Link_28"     "Flow_Link_29"     "Flow_Link_30"     "Flow_Link_31"
## [65] "Flow_Link_32"     "Flow_Link_33"     "Flow_Link_34"     "Pressure_Node_1"
## [69] "Pressure_Node_2"  "Pressure_Node_3"  "Pressure_Node_4"  "Pressure_Node_5"
## [73] "Pressure_Node_6"  "Pressure_Node_7"  "Pressure_Node_8"  "Pressure_Node_9"
## [77] "Pressure_Node_10" "Pressure_Node_11" "Pressure_Node_12" "Pressure_Node_13"
## [81] "Pressure_Node_14" "Pressure_Node_15" "Pressure_Node_16" "Pressure_Node_17"
## [85] "Pressure_Node_18" "Pressure_Node_19" "Pressure_Node_20" "Pressure_Node_21"
## [89] "Pressure_Node_22" "Pressure_Node_23" "Pressure_Node_24" "Pressure_Node_25"
## [93] "Pressure_Node_26" "Pressure_Node_27" "Pressure_Node_28" "Pressure_Node_29"
## [97] "Pressure_Node_30" "Pressure_Node_31" "Pressure_Node_32"
```

First six features (rows)

```
head(ops_data)
```

```
## # A tibble: 6 x 99
##    ...1 Demand~1 Deman~2 Deman~3 Deman~4 Deman~5 Deman~6 Deman~7 Deman~8 Deman~9
##   <dbl>    <dbl>   <dbl>   <dbl>   <dbl>   <dbl>   <dbl>   <dbl>   <dbl>   <dbl>
## 1     1   -3406.    86.4    79.2   101.     173.   108      39.6    43.2    144
## 2     2   -2970     79.2    68.4    82.8    144     93.6    39.6    39.6    137.
## 3     3   -2657.    68.4    64.8    82.8    126     86.4    36      28.8    122.
## 4     4   -2401.    57.6    57.6    75.6    108     86.4    32.4    28.8    112.
## 5     5   -2200.    50.4    50.4    64.8    101.    79.2    28.8    25.2    115.
## 6     6   -2142     43.2    50.4    72      101.    75.6    28.8    21.6    104.
## # ... with 89 more variables: Demand_Node_10 <dbl>, Demand_Node_11 <dbl>,
## #   Demand_Node_12 <dbl>, Demand_Node_13 <dbl>, Demand_Node_14 <dbl>,
## #   Demand_Node_15 <dbl>, Demand_Node_16 <dbl>, Demand_Node_17 <dbl>,
## #   Demand_Node_18 <dbl>, Demand_Node_19 <dbl>, Demand_Node_20 <dbl>,
## #   Demand_Node_21 <dbl>, Demand_Node_22 <dbl>, Demand_Node_23 <dbl>,
## #   Demand_Node_24 <dbl>, Demand_Node_25 <dbl>, Demand_Node_26 <dbl>,
## #   Demand_Node_27 <dbl>, Demand_Node_28 <dbl>, Demand_Node_29 <dbl>, ...
```