

Error Replacement

Nikhil Muthukrishnan

17 October 2018

Error coding

Objective: Show possible replacements of strings

Content: A .CSV file named “L3 Sol PI Tags 2016 a”

Sprint:PO_SPRINT_12_OCT_2018

```
## # A tibble: 139 x 5
##   sensor          X__1    X__2      X__3    X__4
##   <chr>        <chr>  <chr>    <chr>  <chr>
## 1 SC3_FQI20899  1     Under Range <NA>   <NA>
## 2 SC3_AI20849   1     Under Range <NA>   <NA>
## 3 SC3_CV20000   1,2   Storage    Premix  <NA>
## 4 SC3_CV20002   1,2   Storage    Premix  <NA>
## 5 SC3_CV20117   1,2   Storage    Premix  <NA>
## 6 SC3_CV20345   1,2   Storage    Premix  <NA>
## 7 SC3_CV20376   1,2   Storage    Premix  <NA>
## 8 SC3_CV20616   1,2,-1 Storage  Premix  I/O Timeo~
## 9 SC3_TIC20004.pv 0     Over Range <NA>   <NA>
## 10 SC3_PBL21134  1     On       Off    <NA>
## 11 SC3_PBL21121  1     On       <NA>   <NA>
## 12 SC3_PBL21153  1     On       <NA>   <NA>
## 13 SC3_PBL21157  1     On       <NA>   <NA>
## 14 SC3_PBL21188  1     On       <NA>   <NA>
## 15 SC3_PBL21145  0     Off      On    <NA>
## 16 SC3_PBL21206  0     Off      On    <NA>
## 17 SC3_PBL21212  0     Off      On    <NA>
## 18 SC3_PBL24209  0     Off      On    <NA>
## 19 SC3_PBL21140  0     Off      <NA>   <NA>
## 20 SC3_PBL21158  0     Off      <NA>   <NA>
## 21 SC3_PBL21186  0     Off      <NA>   <NA>
## 22 SC3_PBL21209  0     Off      <NA>   <NA>
## 23 SC3_PBL21213  0     Off      <NA>   <NA>
## 24 SC3_PBL24207  0     Off      <NA>   <NA>
## 25 SC3_600402.mmho -1    No more values: <NA> <NA>
## 26 SC3_600402.mo   -1    No more values: <NA> <NA>
## 27 SC3_600_SQC    -1    No more values: <NA> <NA>
## 28 SC3_CB_PCT_AL_SOL.PV -1    No more values: <NA> <NA>
## 29 SC3_CV20000.value -1    No more values: <NA> <NA>
## 30 SC3_CV20117.value -1    No more values: <NA> <NA>
## 31 SC3_CV20345.VALUE -1    No more values: <NA> <NA>
## 32 SC3_LAB600205C_AL.pv -1    No more values: <NA> <NA>
## 33 SC3_LAB600205C_AL_TS.pv -1    No more values: <NA> <NA>
## 34 SC3_LAB600205C_CL.pv -1    No more values: <NA> <NA>
## 35 SC3_SV44        -1    No more values: <NA> <NA>
## 36 SC3_SV45        -1    No more values: <NA> <NA>
## 37 SC3_SV46        -1    No more values: <NA> <NA>
## 38 SC3_TI20848.LCL -1    No more values: <NA> <NA>
```

```

## 39 SC3_TI20848.LSL      -1      No more values: <NA>      <NA>
## 40 SC3_TI20848.UCL      -1      No more values: <NA>      <NA>
## 41 SC3_TI20848.USL      -1      No more values: <NA>      <NA>
## 42 `SC3_AAH20842`       1,2      No Alarm          Alarm On <NA>
## 43 SC3_LAB600205A_AL_TS.pv -1      -JAN- :           <NA>      <NA>
## 44 SC3_LAB600205B_AL_TS.pv -1      -JAN- :           <NA>      <NA>
## 45 SC3_TI20113.pv        -1      I/O Timeout     Configu~ <NA>
## 46 SC3_TIC20113.op        -1      I/O Timeout     Configu~ <NA>
## 47 SC3_TIC20113.sp        -1      I/O Timeout     Configu~ <NA>
## 48 SC3_LAB600205_RATIO_SOL_TS~ -1      -Dec- ::         <NA>      <NA>
## 49 SC3_FQI20898          -1      Bad              <NA>      <NA>
## 50 SC3_FQI24221          -1      Bad              <NA>      <NA>
## 51 SC3_TI20005          -1      Bad              <NA>      <NA>
## 52 SC3_TI38017          -1      Bad              <NA>      <NA>
## 53 SC3_LAB600205_RATIO_SOL.pv <NA>      .             <NA>      <NA>
## 54 SC3_LI21116_LBS        <NA>      .             <NA>      <NA>
## 55 SC3_FQI20897          0,-1     .             Bad        Under Ran~
## 56 SC3_AI20842          <NA>      .             <NA>      <NA>
## 57 SC3_CB_Rate.Sol.Al    <NA>      .             <NA>      <NA>
## 58 SC3_CB_Rate.Sol.Cl    <NA>      .             <NA>      <NA>
## 59 SC3_CB_Rate.Sol.SG    <NA>      .             <NA>      <NA>
## 60 SC3_FI20037          <NA>      .             <NA>      <NA>
## 61 SC3_FIC20007.op        <NA>      .             <NA>      <NA>
## 62 SC3_FIC20014.op        <NA>      .             <NA>      <NA>
## 63 SC3_FIC20116.op        <NA>      .             <NA>      <NA>
## 64 SC3_FIC20344.op        <NA>      .             <NA>      <NA>
## 65 SC3_FIC20375.op        <NA>      .             <NA>      <NA>
## 66 SC3_FIC20615.op        <NA>      .             <NA>      <NA>
## 67 SC3_FIC20849_120F_T    <NA>      .             <NA>      <NA>
## 68 SC3_FIC20849_140F_T    <NA>      .             <NA>      <NA>
## 69 SC3_FIC20849_160F_T    <NA>      .             <NA>      <NA>
## 70 SC3_FIC20849_170F_T    <NA>      .             <NA>      <NA>
## 71 SC3_FIC20849_T         <NA>      .             <NA>      <NA>
## 72 SC3_LAB600205A_AL.pv   <NA>      .             <NA>      <NA>
## 73 SC3_LAB600205A_CL.pv   <NA>      .             <NA>      <NA>
## 74 SC3_LAB600205B_AL.pv   <NA>      .             <NA>      <NA>
## 75 SC3_LAB600205B_CL.pv   <NA>      .             <NA>      <NA>
## 76 SC3_LI21116          <NA>      .             <NA>      <NA>
## 77 SC3_LI21116.gal        <NA>      .             <NA>      <NA>
## 78 SC3_LI21116_GAL        <NA>      .             <NA>      <NA>
## 79 SC3_LI21125          <NA>      .             <NA>      <NA>
## 80 SC3_LI21125.gal        <NA>      .             <NA>      <NA>
## 81 SC3_LI21125_GAL        <NA>      .             <NA>      <NA>
## 82 SC3_LI21125_LBS        <NA>      .             <NA>      <NA>
## 83 SC3_LI21138          <NA>      .             <NA>      <NA>
## 84 SC3_LI21138.gal        <NA>      .             <NA>      <NA>
## 85 SC3_LI21138_GAL        <NA>      .             <NA>      <NA>
## 86 SC3_LI21138_LBS        <NA>      .             <NA>      <NA>
## 87 SC3_LI21149          <NA>      .             <NA>      <NA>
## 88 SC3_LI21149.gal        <NA>      .             <NA>      <NA>
## 89 SC3_LI21149_GAL        <NA>      .             <NA>      <NA>
## 90 SC3_LI21149_LBS        <NA>      .             <NA>      <NA>
## 91 SC3_LI21202          <NA>      .             <NA>      <NA>
## 92 SC3_LI24212          <NA>      .             <NA>      <NA>

```

## 93 SC3_PBL21121_T	<NA>	.	<NA>	<NA>
## 94 SC3_PBL21134_T	<NA>	.	<NA>	<NA>
## 95 SC3_PBL21140_T	<NA>	.	<NA>	<NA>
## 96 SC3_PBL21145_T	<NA>	.	<NA>	<NA>
## 97 SC3_PBL21153_T	<NA>	.	<NA>	<NA>
## 98 SC3_PBL21157_T	<NA>	.	<NA>	<NA>
## 99 SC3_PBL21158_T	<NA>	.	<NA>	<NA>
## 100 SC3_PBL21186_T	<NA>	.	<NA>	<NA>
## 101 SC3_PBL21188_T	<NA>	.	<NA>	<NA>
## 102 SC3_PBL21206_T	<NA>	.	<NA>	<NA>
## 103 SC3_PBL21209_T	<NA>	.	<NA>	<NA>
## 104 SC3_PBL21212_T	<NA>	.	<NA>	<NA>
## 105 SC3_PBL21213_T	<NA>	.	<NA>	<NA>
## 106 SC3_PBL24207_T	<NA>	.	<NA>	<NA>
## 107 SC3_PBL24209_T	<NA>	.	<NA>	<NA>
## 108 SC3_PI38098	<NA>	.	<NA>	<NA>
## 109 SC3_PI38099	<NA>	.	<NA>	<NA>
## 110 SC3_PIC38076.pv	<NA>	.	<NA>	<NA>
## 111 SC3_PIC38076.sp	<NA>	.	<NA>	<NA>
## 112 SC3_TI20012	<NA>	.	<NA>	<NA>
## 113 SC3_TI20114	<NA>	.	<NA>	<NA>
## 114 SC3_TI20373	<NA>	.	<NA>	<NA>
## 115 SC3_TI20613	<NA>	.	<NA>	<NA>
## 116 SC3_TI21115	<NA>	.	<NA>	<NA>
## 117 SC3_TI21124	<NA>	.	<NA>	<NA>
## 118 SC3_TI21137	<NA>	.	<NA>	<NA>
## 119 SC3_TIC20011.op	<NA>	.	<NA>	<NA>
## 120 SC3_TIC20011.pv	<NA>	.	<NA>	<NA>
## 121 SC3_TIC20011.sp	<NA>	.	<NA>	<NA>
## 122 SC3_TIC20341.op	<NA>	.	<NA>	<NA>
## 123 SC3_TIC20341.pv	<NA>	.	<NA>	<NA>
## 124 SC3_TIC20341.sp	<NA>	.	<NA>	<NA>
## 125 SC3_TIC20372.pv	<NA>	.	<NA>	<NA>
## 126 SC3_TIC20372.sp	<NA>	.	<NA>	<NA>
## 127 SC3_TIC20522.pv	<NA>	.	<NA>	<NA>
## 128 SC3_TIC20522.sp	<NA>	.	<NA>	<NA>
## 129 SC3_TIC20612.op	<NA>	.	<NA>	<NA>
## 130 SC3_TIC20612.pv	<NA>	.	<NA>	<NA>
## 131 SC3_TIC20612.sp	<NA>	.	<NA>	<NA>
## 132 SC3_CB_Rate.Blend	<NA>	<NA>	<NA>	<NA>
## 133 SC3_CQI20793A	<NA>	<NA>	<NA>	<NA>
## 134 SC3_FQI38204.TV	<NA>	<NA>	<NA>	<NA>
## 135 SC3_PIC38076.op	<NA>	<NA>	<NA>	<NA>
## 136 SC3_TIC20004.op	<NA>	<NA>	<NA>	<NA>
## 137 SC3_TIC20004.sp	<NA>	<NA>	<NA>	<NA>
## 138 SC3_TIC20372.op	<NA>	<NA>	<NA>	<NA>
## 139 SC3_TIC20522.op	<NA>	<NA>	<NA>	<NA>

Sensor wise String types

First column shows sensor names Second column has arbitrary replacement values Remaining columns are the possible strings found in each sensor

From analysis negative values are not present in the dataset and COULD be used as replacements. From dataframe above it seems possible to replace most of the strings with 1/0 or with running numbers.