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OBSERVATION OF EDA OF FIVE COIL

>>**The statistical data of the five coil is given below:**

	SEGEMTNR	LINE_SPEED	COIL_NO	RC1_TEMP	RC2_TEMP	RC3_TEMP	POTENTIOMETER ENTRY	POTENTIOMETER EXIT
count	699.000000	699.000000	699.000000	699.000000	699.000000	699.000000	699.000000	699.000000
mean	55.227468	37.479247	23134.689557	69.139940	68.915393	72.707139	180.922862	178.467250
std	38.232377	12.778056	31609.986591	1.124241	0.949647	1.775610	40.859944	39.030875
min	0.000000	0.000000	10093.000000	66.654648	67.553146	70.115746	149.379425	148.177078
25%	23.000000	25.671306	10094.000000	68.685326	68.035732	71.078194	152.951401	153.125000
50%	51.000000	44.779892	10151.000000	69.219353	68.758980	72.439583	165.711807	160.503479
75%	82.000000	46.179886	10299.000000	69.584423	69.729618	74.377048	171.527786	172.569443
max	156.000000	50.519867	99995.000000	72.443176	70.879631	76.053635	271.988983	257.891754

>>**The unique values in the column are listed below:**

I_SEGMENTNR	157
I_LINE_SPEED	96
I_COIL_NO	5
I_RC1_TEMPERATURE	578
I_RC2_TEMPERATURE	671
I_RC3_TEMPERATURE	697
I_LINEAR_POTENTIOMETER_ENTRY	310
I_LINEAR_POTENTIOMETER_EXIT	152
I_DT_TIME	120

>> **No null values are found in the given data.**

>>The graph plotted below is of linear potentiometer entry against the line speed for the Coil no 10093, 10094, 10151, 10299, 99995. The inferences are:

--The Density of Line speed is more at values between 35 to 50 where the value linear potentiometer entry lies between 160 to 180 for all the five coils.

--A considerable density of coils lies in plotting area where the values above 260 for linear potentiometer entry and the values between 0 to 20 for line speed match.

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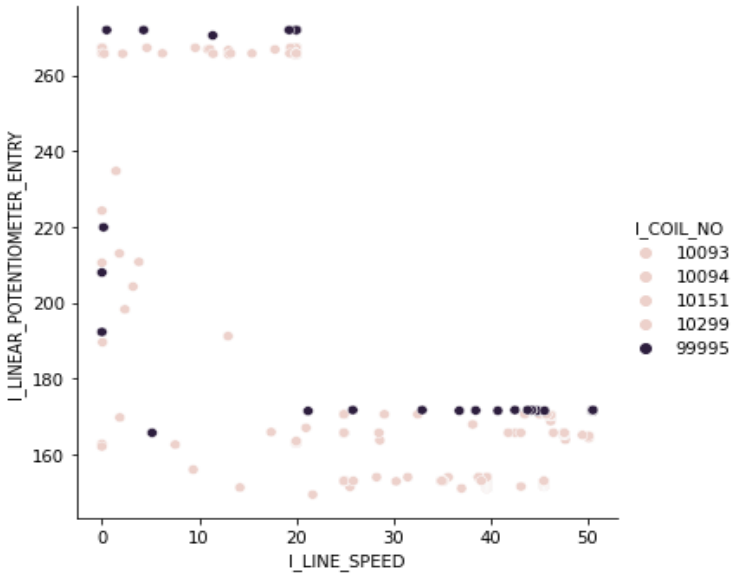
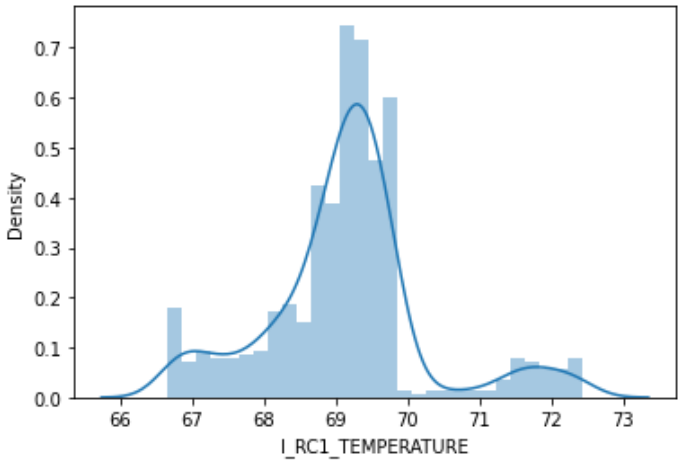
```
sns.relplot(x = 'I_LINE_SPEED' , y = 'I_LINEAR_POTENTIOMETER_ENTRY' , hue = 'I_COIL_NO' , data=data)
```

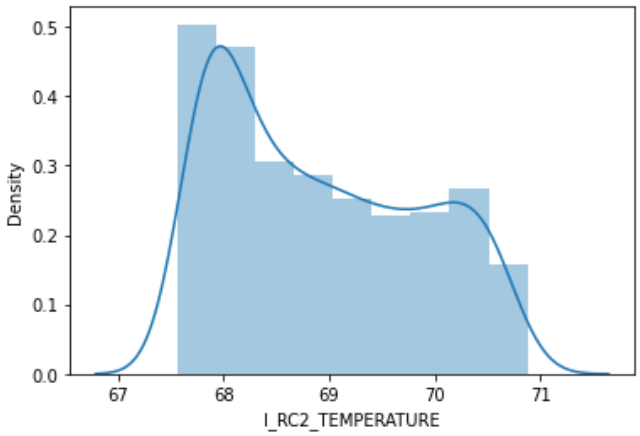
```
<seaborn.axisgrid.FacetGrid at 0x20ca51d6af0>
```



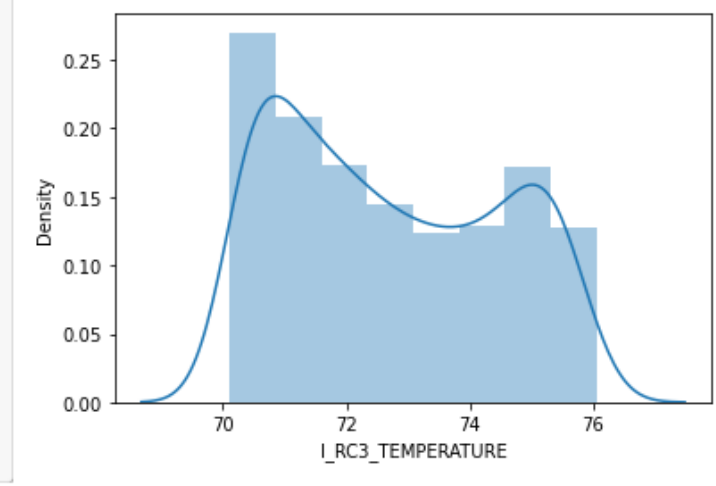
>>Maximum entrypoints have RC1 Temperature between values 68 to 70. Very less coil checkpoint have RC1 temperature between 71 to 73.



>> Maximum entrypoints have RC2 Temperature around 68. A considerable no. of checkpoints has RC2 Temperature lying between 68.5 to 70.5.



>> Maximum entrypoints have RC3 Temperature between 70 to 72. A considerable no. of checkpoints has RC3 Temperature lying between 74 to 76.



- The RC1 Temperature lies between 67 to 72.5
- The RC2 Temperature lies between 67.5 to 71.
- The RC3 Temperature lies between 70 to 76.

>>From the below correlation matrix we infer:

Value 1 in the below correlation matrix depicts the perfect +ve correlation among the Attributes

The Strong positive correlation is found between Linear_Potentiometer_Entry and Linear_Potentiometer_Exit.

The correlation between RC1 TEMPERATURE and RC2 TEMPERATURE is 0.27

(weak +ve correlation)

The correlation between RC1 TEMPERATURE and RC3 TEMPERATURE is 0.0033

(No correlation)

The correlation between RC2 TEMPERATURE and RC3 TEMPERATURE is -0.39

(Weak -ve correlation)

Correlation between Line_Speed and Linear_Potentiometer_Exit is -0.76 (Strong Negative Correlation)

Moderate -ve correlation exists between the attributes SEGMENTNR and LIBEAR_POTENTIOMETER_ENTRY.

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