Name of the variables in the new dataset including the new variable “cru”:

"id" "time" "cats" "normal" "poisson" "gauss" "cru"

The first 6 lines of the new dataest (to see the new variable has been added):

	id	time	cats	normal	poisson	gauss	cru
1	1	1	one	6.4588697	4	16.68075	8.545516
2	2	1	two	-0.8660723	2	17.51865	18.716068
3	3	1	two	2.3198307	3	20.50240	13.132412
4	4	1	two	2.2171485	3	12.41370	23.998885
5	5	1	three	10.9997781	5	25.79190	27.889538
6	6	1	two	-10.9134104	3	20.22173	29.326313

==========

Now form a linear mixed-effects model, considering “cru” as the response variable with normal(10,24) distribution, “time” as the categorical fixed effect with three levels, and “id” as the random effect; Using “lme” function in R.
The model is: “cru~factor(time)-1, random=~1|id” (by -1 we omit the intercept of the fixed effect)

Random effects:
 Formula: ~1 | id
        (Intercept)   Residual
StdDev: 0.5863129   9.984778

Fixed effects: cru ~ factor(time) - 1
                  Value Std.Error   DF t-value   p-value
factor(time)1 24.04563 0.03162903 199998 760.2393   0
factor(time)2 23.99975 0.03162903 199998 758.7885   0
factor(time)3 24.06031 0.03162903 199998 760.7034   0
 Correlation:

CINCLUSION

P-values are all zero.
Specifically, the third level of “time” has the estimated regression coefficient equals to 24.06031 in this linear model considering “id” as the random effect, and p-value equals to zero, so there is a

significant linear relationship between level 3 of time and “cru” when “id” is treated as a random effect.