

## Cluster Centers

The code used in creating cluster centers is given below:

```
km_model = KMeans.train(parsed_data, 3, maxIterations = 10, initializationMode = "random")
```

Cluster centers formed are given in the table below

Cluster #	Center
1	36.44134078, 926.11731844, 46.96648045
2	24.98746082, 357.95924765, 35.06583072
3	32.35555556, 2310.64444444, 39.42222222

These clusters can be differentiated from each other as follows:

Cluster 1 is different from the others in that users with the highest revenue and adclick are not the ones who are playing the most but an intermediate result in game clicks.

Cluster 2 is different from the others in that the users who play the less also produces the less ad revenue and click count

Cluster 3 is different from the others in that the users who play the most are not the ones who produce the most revenue, the revenue in the middle along with the ad click count

Below you can see the summary of the train data set:

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```
print(km_model.centers)
```

```
[array([ 36.44134078, 926.11731844, 46.96648045]), array([ 24.98746082, 357.95924765, 35.06583072]), array([ 32.35555556, 2310.64444444, 39.42222222])]
```