**Project Definition:**

This dataset was created with records of absenteeism at work from July 2007 to July 2010 at a courier company in Brazil. This dataset contains different possible reasons of Absenteeism at work and consider 28 Reasons for absence. These reasons is vary from person to person. We can assume that when a person’s work place is far from his/her home, there is a possibility of increasing Absenteeism time is more than the person whose work place is near from residence. During research, they consider reason of absence, workload, weight, education, number of pets and others effects. Transportation cost, weather and number of sons can play a vital role as a reason of increasing Absenteeism time in workplace. This will help to find out the reasons of persons of absenteeism at work and analysis them.

**Literature Survey:**

Workers don’t miss work without any reason. And the reasons vary from person to person. While collecting data for the research it was noticed that health issues,no of children,no of pets,distance from work,the current season also has it’s effect. It was found that there were 28 common health/medical reasons. The distance between the work place to home or the transportation cost also play’s a role. During winter season due to cold weather in the morning people easily become late to work. Also in the rainy season people will ofter take shelter under shades to avoid the rain which in term also cause people to be late work. Medical reasons like Pregnancy, childbirth causese people to miss work for a lot of days. Also if the person in question has many no of children then it can cause him to be late for work.

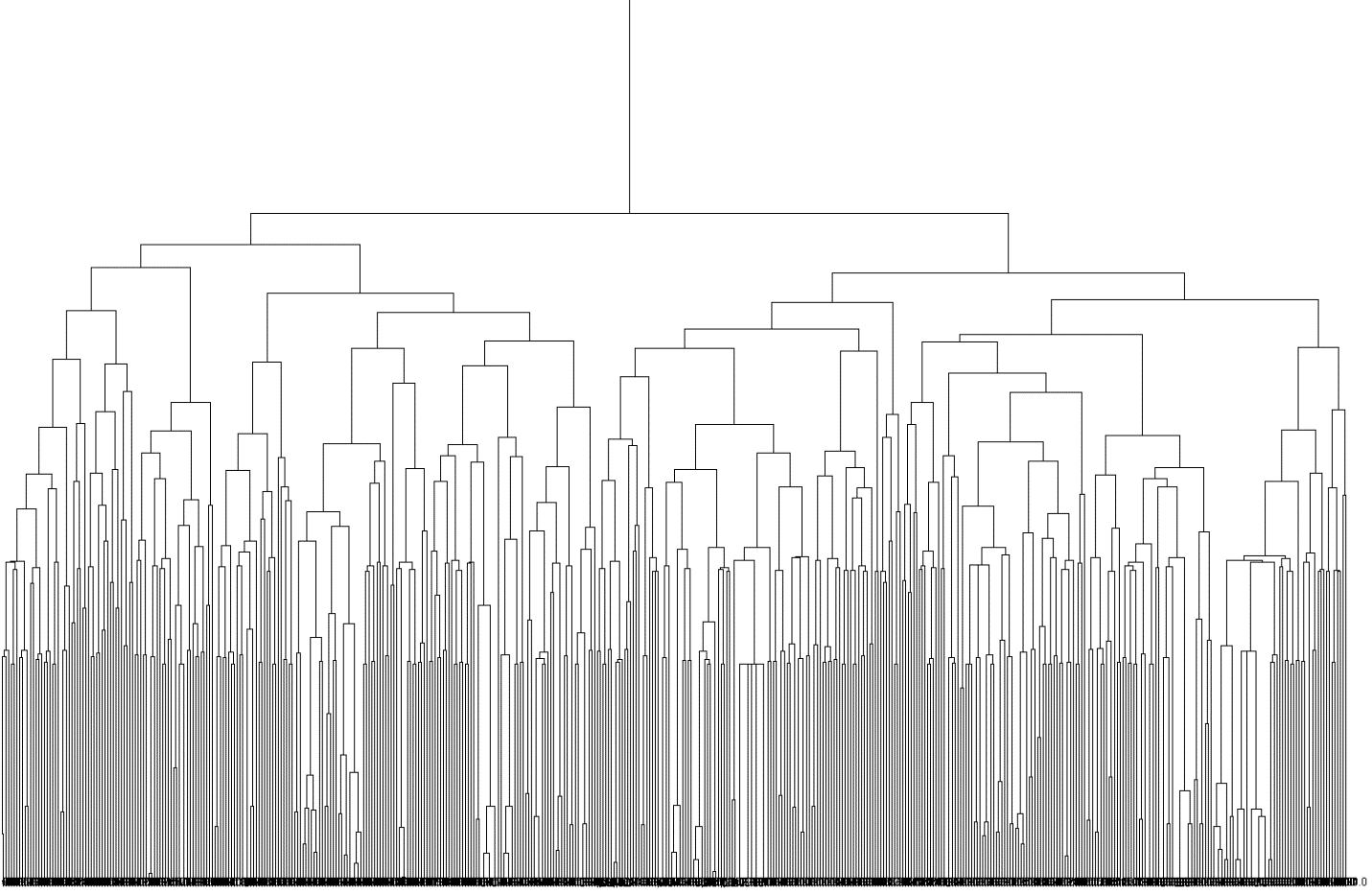


Fig 1: Cutting point (4 cluster)

Cluster 0:

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Education | Age | Disciplinary failure | Body mass index | Son | Social drinker | Social smoker | Pet | Absenteeism time in hours |
| 1 | 33 | 0 | 30 | 2 | 1 | 0 | 1 | 4 |
| 1 | 33 | 0 | 30 | 2 | 1 | 0 | 1 | 2 |
| 1 | 28 | 0 | 27 | 1 | 1 | 0 | 4 | 8 |
| 1 | 36 | 0 | 23 | 4 | 1 | 0 | 0 | 4 |
| 1 | 34 | 0 | 25 | 2 | 1 | 0 | 0 | 40 |
| 1 | 37 | 0 | 29 | 1 | 0 | 0 | 1 | 8 |
| 1 | 36 | 0 | 23 | 4 | 1 | 0 | 0 | 8 |
| 1 | 36 | 0 | 23 | 4 | 1 | 0 | 0 | 8 |
| 1 | 36 | 0 | 23 | 4 | 1 | 0 | 0 | 8 |
| 1 | 41 | 0 | 23 | 0 | 1 | 0 | 0 | 8 |
| 1 | 33 | 0 | 25 | 2 | 0 | 0 | 2 | 8 |
| 1 | 47 | 0 | 32 | 2 | 0 | 0 | 1 | 2 |
| 1 | 37 | 0 | 28 | 0 | 0 | 0 | 0 | 3 |
| 1 | 40 | 0 | 25 | 1 | 1 | 0 | 1 | 4 |
| 1 | 36 | 0 | 23 | 4 | 1 | 0 | 0 | 8 |
| 1 | 40 | 0 | 25 | 1 | 1 | 0 | 1 | 32 |

Findings:

1. This is the only cluster in which Average absenteeism time in hours is highest(7.71)
2. Most (medical consultation (23) reason of absence and second is 28- dental consultation.
3. This is the cluster in which the work load averageis Lowest (272581)
4. In this, cluster persons have lowest age average.(34)
5. **Distance average 26, Cost average 233**

Cluster 1:

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Education | Age | Disciplinary failure | Height | Son | Social drinker | Social smoker | Pet | Absenteeism time in hours |
| 1 | 50 | 1 | 178 | 1 | 1 | 0 | 0 | 0 |
| 1 | 36 | 1 | 168 | 4 | 1 | 0 | 0 | 0 |
| 1 | 28 | 1 | 169 | 1 | 0 | 0 | 2 | 0 |
| 1 | 33 | 1 | 172 | 2 | 1 | 0 | 1 | 0 |
| 1 | 50 | 1 | 178 | 1 | 1 | 0 | 0 | 0 |
| 1 | 31 | 1 | 169 | 3 | 1 | 0 | 0 | 0 |
| 1 | 50 | 1 | 178 | 1 | 1 | 0 | 0 | 0 |
| 1 | 39 | 1 | 168 | 2 | 1 | 1 | 0 | 0 |
| 2 | 28 | 1 | 182 | 0 | 0 | 0 | 0 | 0 |
| 1 | 50 | 1 | 178 | 0 | 0 | 0 | 0 | 0 |
| 1 | 36 | 1 | 168 | 4 | 1 | 0 | 0 | 0 |
| 1 | 43 | 1 | 167 | 1 | 1 | 0 | 0 | 0 |
| 1 | 39 | 1 | 170 | 2 | 1 | 0 | 2 | 0 |
| 1 | 32 | 1 | 169 | 0 | 1 | 0 | 0 | 0 |
| 1 | 43 | 1 | 167 | 1 | 1 | 0 | 0 | 0 |

**Cluster 1:**

Findings:

1. This is the only cluster in which all the persons are not disciplined. (1)
2. Only cluster in which Absenteeism time in hours is always 0 that’s why Reason for absence is always 0.
3. **Average work load 272749, Distance average 24, cost average 234, age average 39**

Cluster 2:

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Education | Age | Disciplinary failure | Height | Body mass index | Social drinker | Social smoker | Pet | Absenteeism time in hours |
| **1** | **38** | **0** | **170** | **31** | **1** | **0** | **0** | **2** |
| **1** | **38** | **0** | **170** | **31** | **1** | **0** | **0** | **2** |
| **1** | **38** | **0** | **170** | **31** | **1** | **0** | **0** | **1** |
| **1** | **38** | **0** | **170** | **31** | **1** | **0** | **0** | **4** |
| **1** | **38** | **0** | **170** | **31** | **1** | **0** | **0** | **2** |
| **1** | **38** | **0** | **170** | **31** | **1** | **0** | **0** | **8** |
| **1** | **38** | **0** | **170** | **31** | **1** | **0** | **0** | **1** |
| **1** | **38** | **0** | **170** | **31** | **1** | **0** | **0** | **2** |
| **1** | **38** | **0** | **170** | **31** | **1** | **0** | **0** | **8** |
| **1** | **38** | **0** | **170** | **31** | **1** | **0** | **0** | **2** |
| **1** | **38** | **0** | **170** | **31** | **1** | **0** | **0** | **4** |

***Cluster 2:***

Findings:

1. Most of instances have body mass index 31.
2. This the only cluster in which the employee have not more than 2 sons, and most of them are 0.
3. In this cluster most of the persons are social drinker, and their discipline failure is always 0
4. Only cluster in which all the employees are high school educative.
5. Most of the person did not keep any pet.(0)
6. In this cluster, Distance from Residence to Work is highest but lowest cost for transportation
7. **Absences average 6 ,Workload average 267300, age average 40**

Cluster 3:

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Education | Age | Disciplinary failure | Height | Body mass index | Social drinker | Social smoker | Pet | Absenteeism time in hours |
| 1 | 39 | 0 | 168 | 24 | 1 | 1 | 0 | 4 |
| 1 | 29 | 0 | 185 | 22 | 1 | 1 | 0 | 4 |
| 1 | 48 | 0 | 163 | 33 | 0 | 1 | 5 | 8 |
| 1 | 48 | 0 | 163 | 33 | 0 | 1 | 5 | 8 |
| 1 | 48 | 0 | 163 | 33 | 0 | 1 | 5 | 8 |
| 2 | 40 | 0 | 170 | 22 | 0 | 1 | 0 | 8 |
| 2 | 40 | 0 | 170 | 22 | 0 | 1 | 0 | 8 |
| 1 | 29 | 0 | 185 | 22 | 1 | 1 | 0 | 3 |
| 2 | 40 | 0 | 170 | 22 | 0 | 1 | 0 | 8 |
| 2 | 40 | 0 | 170 | 22 | 0 | 1 | 0 | 40 |
| 2 | 40 | 0 | 170 | 22 | 0 | 1 | 0 | 8 |
| 1 | 39 | 0 | 168 | 24 | 1 | 1 | 0 | 8 |
| 1 | 39 | 0 | 168 | 24 | 1 | 1 | 0 | 16 |
| 1 | 36 | 0 | 174 | 21 | 0 | 1 | 4 | 8 |

Cluster 3:

Findings:

1. This the only cluster in which most of the persons are social smoker.
2. This the only cluster in which most of the persons are non-drinker.
3. This is the cluster in which the work load average Is highest.( 273827)
4. In this cluster most of the person have 2 sons.
5. Only cluster in which most of the person have no pets or 4/5 pets.
6. **Distance average 26,cost average 231, age average 40, absence average**

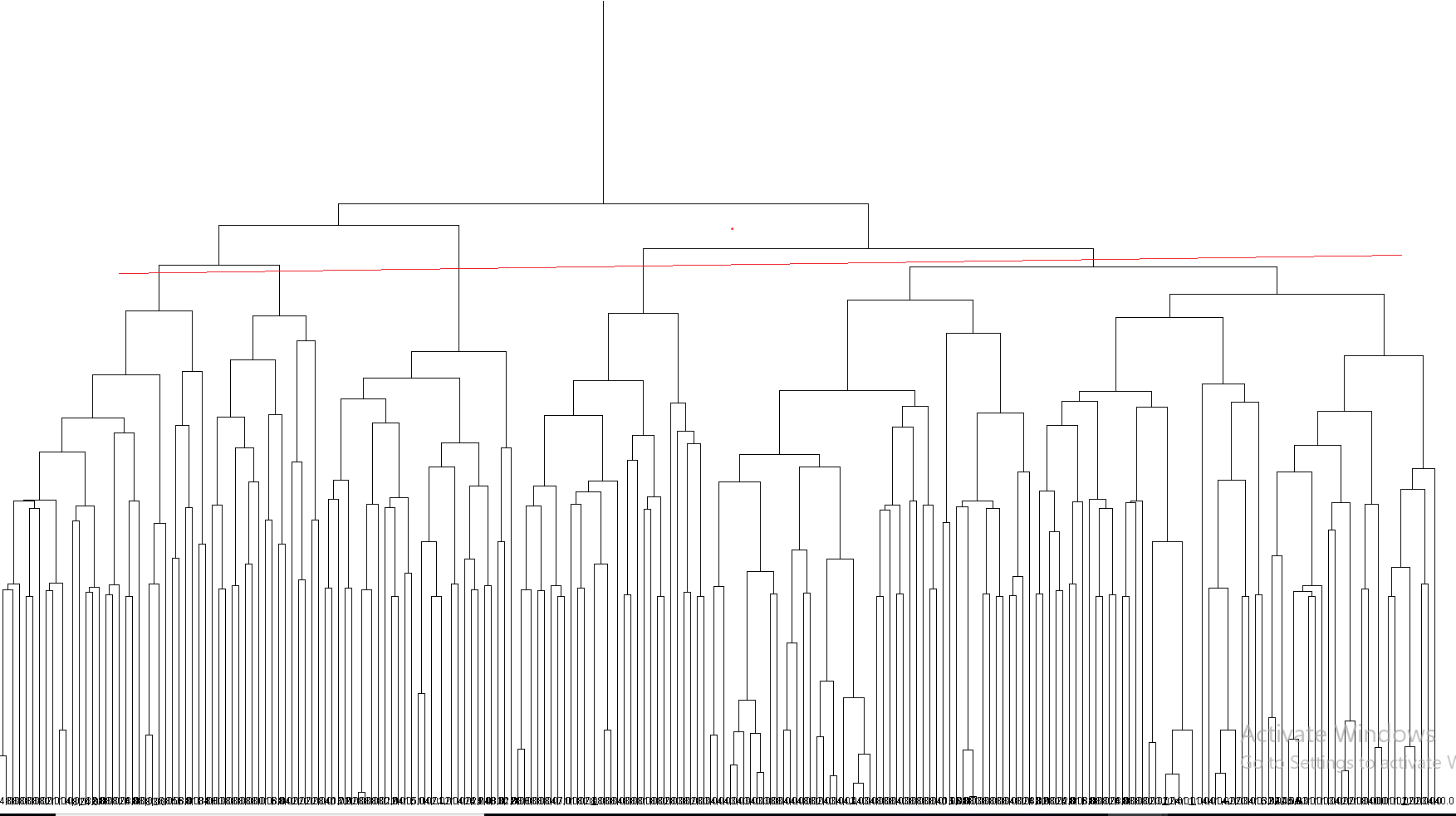
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Fig 1: Cutting point (5 cluster)

**Cluster 0:**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Reason for absence | Transportation expense | Disciplinary failure | Education | Son | Social drinker | Social smoker | Pet | Absenteeism time in hours |
| 26 | 118 | 0 | 1 | 1 | 1 | 0 | 0 | 4 |
| 1 | 155 | 0 | 1 | 2 | 1 | 0 | 0 | 16 |
| 6 | 155 | 0 | 1 | 2 | 1 | 0 | 0 | 8 |
| 10 | 155 | 0 | 1 | 2 | 1 | 0 | 0 | 32 |
| 10 | 155 | 0 | 1 | 2 | 1 | 0 | 0 | 48 |
| 10 | 155 | 0 | 1 | 2 | 1 | 0 | 0 | 8 |
| 11 | 155 | 0 | 1 | 2 | 1 | 0 | 0 | 120 |
| 12 | 155 | 0 | 1 | 2 | 1 | 0 | 0 | 24 |
| 13 | 155 | 0 | 1 | 2 | 1 | 0 | 0 | 8 |
| 13 | 155 | 0 | 1 | 2 | 1 | 0 | 0 | 24 |
| 18 | 155 | 0 | 1 | 2 | 1 | 0 | 0 | 8 |
| 18 | 155 | 0 | 1 | 2 | 1 | 0 | 0 | 80 |
| 18 | 155 | 0 | 1 | 2 | 1 | 0 | 0 | 8 |
| 19 | 155 | 0 | 1 | 2 | 1 | 0 | 0 | 40 |
| 19 | 155 | 0 | 1 | 2 | 1 | 0 | 0 | 16 |
| 23 | 155 | 0 | 1 | 2 | 1 | 0 | 0 | 2 |
| 23 | 155 | 0 | 1 | 2 | 1 | 0 | 0 | 1 |
| 23 | 155 | 0 | 1 | 2 | 1 | 0 | 0 | 4 |
| 23 | 155 | 0 | 1 | 2 | 1 | 0 | 0 | 2 |
| 23 | 155 | 0 | 1 | 2 | 1 | 0 | 0 | 4 |
| 23 | 155 | 0 | 1 | 2 | 1 | 0 | 0 | 2 |
| 23 | 155 | 0 | 1 | 2 | 1 | 0 | 0 | 2 |
| 25 | 155 | 0 | 1 | 2 | 1 | 0 | 0 | 2 |
| 25 | 155 | 0 | 1 | 2 | 1 | 0 | 0 | 5 |
| 28 | 155 | 0 | 1 | 2 | 1 | 0 | 0 | 2 |
| 28 | 155 | 0 | 1 | 2 | 1 | 0 | 0 | 1 |
| 28 | 155 | 0 | 1 | 2 | 1 | 0 | 0 | 2 |
| 28 | 155 | 0 | 1 | 2 | 1 | 0 | 0 | 1 |
| 28 | 155 | 0 | 1 | 2 | 1 | 0 | 0 | 2 |
| 28 | 155 | 0 | 1 | 2 | 1 | 0 | 0 | 4 |
| 0 | 231 | 0 | 1 | 2 | 1 | 0 | 2 | 0 |
| 12 | 233 | 0 | 2 | 1 | 1 | 0 | 8 | 3 |
| 18 | 233 | 0 | 2 | 1 | 1 | 0 | 8 | 8 |
| 19 | 233 | 0 | 2 | 1 | 1 | 0 | 8 | 2 |
| 19 | 233 | 0 | 2 | 1 | 1 | 0 | 8 | 8 |
| 19 | 233 | 0 | 2 | 1 | 1 | 0 | 8 | 2 |
| 22 | 233 | 0 | 2 | 1 | 1 | 0 | 8 | 8 |
| 22 | 233 | 0 | 2 | 1 | 1 | 0 | 8 | 3 |
| 26 | 235 | 0 | 1 | 1 | 1 | 0 | 0 | 8 |
| 1 | 246 | 0 | 1 | 0 | 1 | 0 | 0 | 8 |

**Findings:**

1. Only cluster in which Most reason of absence is (28-dental consultation)
2. Only cluster in which most no of instances with education 1.
3. Most no of instances with 8 pets.
4. All of them are Social Drinker(Yes)
5. All of them are Social Smoker(No)
6. Only cluster in which person occurs No Disciplinary failure.
7. Most of the instances have an Education level of 1
8. In this cluster average Transportation cost is-(270) is Highest

**Cluster 1:**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Reason for absence | Transportation expense | Age | Disciplinary failure | Education | Son | Social drinker | Social smoker | Pet | Absenteeism time in hours |
| 0 | 118 | 50 | 1 | 1 | 1 | 1 | 0 | 0 | 0 |
| 0 | 118 | 50 | 1 | 1 | 1 | 1 | 0 | 0 | 0 |
| 0 | 118 | 50 | 1 | 1 | 1 | 1 | 0 | 0 | 0 |
| 0 | 118 | 50 | 1 | 1 | 1 | 1 | 0 | 0 | 0 |
| 0 | 118 | 50 | 1 | 1 | 1 | 1 | 0 | 0 | 0 |
| 0 | 118 | 50 | 1 | 1 | 1 | 1 | 0 | 0 | 0 |
| 0 | 157 | 29 | 1 | 1 | 0 | 1 | 1 | 0 | 0 |
| 0 | 179 | 38 | 1 | 1 | 0 | 1 | 0 | 0 | 0 |
| 0 | 179 | 53 | 0 | 1 | 1 | 0 | 0 | 1 | 0 |
| 0 | 225 | 28 | 1 | 1 | 1 | 0 | 0 | 2 | 0 |
| 0 | 225 | 28 | 1 | 1 | 1 | 0 | 0 | 2 | 0 |
| 0 | 231 | 39 | 1 | 1 | 2 | 1 | 0 | 2 | 0 |
| 0 | 235 | 43 | 1 | 1 | 1 | 1 | 0 | 0 | 0 |
| 0 | 235 | 43 | 1 | 1 | 1 | 1 | 0 | 0 | 0 |
| 0 | 235 | 43 | 1 | 1 | 1 | 1 | 0 | 0 | 0 |
| 0 | 235 | 43 | 1 | 1 | 1 | 1 | 0 | 0 | 0 |
| 0 | 235 | 37 | 1 | 3 | 1 | 0 | 0 | 1 | 0 |
| 0 | 235 | 43 | 1 | 1 | 1 | 1 | 0 | 0 | 0 |
| 0 | 246 | 41 | 1 | 1 | 0 | 1 | 0 | 0 | 0 |
| 0 | 248 | 47 | 1 | 1 | 2 | 0 | 0 | 1 | 0 |
| 0 | 260 | 36 | 1 | 1 | 4 | 1 | 0 | 0 | 0 |
| 0 | 260 | 36 | 1 | 1 | 4 | 1 | 0 | 0 | 0 |
| 0 | 260 | 36 | 1 | 1 | 4 | 1 | 0 | 0 | 0 |
| 0 | 268 | 33 | 1 | 2 | 0 | 0 | 0 | 0 | 0 |
| 0 | 279 | 39 | 1 | 1 | 2 | 1 | 1 | 0 | 0 |
| 0 | 279 | 39 | 1 | 1 | 2 | 1 | 1 | 0 | 0 |
| 0 | 289 | 33 | 1 | 1 | 2 | 1 | 0 | 1 | 0 |
| 0 | 289 | 33 | 1 | 1 | 2 | 1 | 0 | 1 | 0 |
| 0 | 291 | 32 | 1 | 1 | 0 | 1 | 0 | 0 | 0 |
| 0 | 330 | 28 | 1 | 2 | 0 | 0 | 0 | 0 | 0 |
| 0 | 369 | 31 | 1 | 1 | 3 | 1 | 0 | 0 | 0 |
| 0 | 369 | 31 | 1 | 1 | 3 | 1 | 0 | 0 | 0 |
| 0 | 388 | 50 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |

**Findings:**

1. In this cluster, nobody has any Reason of Absence.
2. Here most Number of Disciplinary failure occurred.
3. In this cluster there is no Social smoker
4. But Majority of them are Social drinker

# **Cluster 2:**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Reason for absence | Transportation expense | Age | Disciplinary failure | Education | Son | Social drinker | Social smoker | Pet | Absenteeism time in hours |
| 0 | 118 | 40 | 0 | 1 | 1 | 1 | 0 | 8 | 0 |
| 1 | 118 | 50 | 0 | 1 | 1 | 1 | 0 | 0 | 8 |
| 5 | 118 | 50 | 0 | 1 | 1 | 1 | 0 | 0 | 3 |
| 13 | 118 | 50 | 0 | 1 | 1 | 1 | 0 | 0 | 24 |
| 13 | 118 | 50 | 0 | 1 | 1 | 1 | 0 | 0 | 8 |
| 13 | 118 | 50 | 0 | 1 | 1 | 1 | 0 | 0 | 80 |
| 13 | 118 | 50 | 0 | 1 | 1 | 1 | 0 | 0 | 3 |
| 13 | 118 | 50 | 0 | 1 | 1 | 1 | 0 | 0 | 8 |
| 13 | 118 | 50 | 0 | 1 | 1 | 1 | 0 | 0 | 120 |
| 14 | 118 | 50 | 0 | 1 | 1 | 1 | 0 | 0 | 3 |
| 14 | 118 | 50 | 0 | 1 | 1 | 1 | 0 | 0 | 2 |
| 19 | 118 | 50 | 0 | 1 | 1 | 1 | 0 | 0 | 24 |
| 19 | 118 | 50 | 0 | 1 | 1 | 1 | 0 | 0 | 3 |
| 23 | 118 | 50 | 0 | 1 | 1 | 1 | 0 | 0 | 2 |
| 23 | 118 | 50 | 0 | 1 | 1 | 1 | 0 | 0 | 1 |
| 23 | 118 | 50 | 0 | 1 | 1 | 1 | 0 | 0 | 1 |
| 23 | 118 | 50 | 0 | 1 | 1 | 1 | 0 | 0 | 1 |
| 23 | 118 | 50 | 0 | 1 | 1 | 1 | 0 | 0 | 1 |
| 23 | 118 | 50 | 0 | 1 | 1 | 1 | 0 | 0 | 2 |
| 23 | 118 | 50 | 0 | 1 | 1 | 1 | 0 | 0 | 1 |
| 23 | 118 | 50 | 0 | 1 | 1 | 1 | 0 | 0 | 2 |
| 23 | 118 | 50 | 0 | 1 | 1 | 1 | 0 | 0 | 1 |
| 23 | 118 | 50 | 0 | 1 | 1 | 1 | 0 | 0 | 3 |
| 23 | 118 | 50 | 0 | 1 | 1 | 1 | 0 | 0 | 2 |
| 28 | 118 | 50 | 0 | 1 | 1 | 1 | 0 | 0 | 1 |
| 28 | 118 | 50 | 0 | 1 | 1 | 1 | 0 | 0 | 1 |
| 28 | 118 | 50 | 0 | 1 | 1 | 1 | 0 | 0 | 1 |
| 28 | 118 | 50 | 0 | 1 | 1 | 1 | 0 | 0 | 1 |
| 5 | 179 | 38 | 0 | 1 | 0 | 1 | 0 | 0 | 8 |

**Findings:**

1. Only cluster which has instances with education 4.
2. In this cluster, most no of person are 38 years old
3. This cluster has lowest average Transportation cost
4. Here, most no of instances with service Time of 18 hours.
5. All of them are social smoker
6. In this cluster, most of the instances has low no of Pet and Son
7. There is no Disciplinary failure in this cluster.
8. Majority of them are Social drinker.

**Cluster 3:**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Reason for absence | Transportation expense | Age | Disciplinary failure | Education | Son | Social drinker | Social smoker | Pet | Absenteeism time in hours |
| 7 | 118 | 46 | 0 | 1 | 2 | 1 | 1 | 0 | 8 |
| 23 | 118 | 46 | 0 | 1 | 2 | 1 | 1 | 0 | 8 |
| 11 | 157 | 29 | 0 | 1 | 0 | 1 | 1 | 0 | 16 |
| 19 | 157 | 29 | 0 | 1 | 0 | 1 | 1 | 0 | 3 |
| 19 | 157 | 29 | 0 | 1 | 0 | 1 | 1 | 0 | 3 |
| 25 | 157 | 29 | 0 | 1 | 0 | 1 | 1 | 0 | 3 |
| 28 | 157 | 29 | 0 | 1 | 0 | 1 | 1 | 0 | 4 |
| 28 | 157 | 29 | 0 | 1 | 0 | 1 | 1 | 0 | 2 |
| 8 | 179 | 40 | 0 | 2 | 2 | 0 | 1 | 0 | 8 |
| 8 | 179 | 40 | 0 | 2 | 2 | 0 | 1 | 0 | 3 |
| 10 | 179 | 40 | 0 | 2 | 2 | 0 | 1 | 0 | 8 |
| 11 | 179 | 40 | 0 | 2 | 2 | 0 | 1 | 0 | 40 |
| 11 | 179 | 40 | 0 | 2 | 2 | 0 | 1 | 0 | 2 |
| 16 | 179 | 40 | 0 | 2 | 2 | 0 | 1 | 0 | 2 |
| 16 | 179 | 40 | 0 | 2 | 2 | 0 | 1 | 0 | 1 |
| 17 | 179 | 40 | 0 | 2 | 2 | 0 | 1 | 0 | 8 |
| 18 | 179 | 40 | 0 | 2 | 2 | 0 | 1 | 0 | 2 |
| 18 | 179 | 40 | 0 | 2 | 2 | 0 | 1 | 0 | 3 |
| 21 | 179 | 40 | 0 | 2 | 2 | 0 | 1 | 0 | 8 |
| 21 | 179 | 40 | 0 | 2 | 2 | 0 | 1 | 0 | 8 |
| 22 | 179 | 40 | 0 | 2 | 2 | 0 | 1 | 0 | 8 |
| 23 | 179 | 40 | 0 | 2 | 2 | 0 | 1 | 0 | 2 |
| 25 | 179 | 40 | 0 | 2 | 2 | 0 | 1 | 0 | 1 |
| 25 | 179 | 40 | 0 | 2 | 2 | 0 | 1 | 0 | 8 |
| 25 | 179 | 40 | 0 | 2 | 2 | 0 | 1 | 0 | 2 |
| 25 | 179 | 40 | 0 | 2 | 2 | 0 | 1 | 0 | 2 |
| 25 | 179 | 40 | 0 | 2 | 2 | 0 | 1 | 0 | 2 |
| 25 | 179 | 40 | 0 | 2 | 2 | 0 | 1 | 0 | 8 |
| 0 | 235 | 48 | 1 | 1 | 1 | 0 | 1 | 5 | 0 |
| 0 | 235 | 48 | 1 | 1 | 1 | 0 | 1 | 5 | 0 |
| 18 | 235 | 48 | 0 | 1 | 1 | 0 | 1 | 5 | 8 |
| 18 | 235 | 48 | 0 | 1 | 1 | 0 | 1 | 5 | 8 |
| 23 | 235 | 48 | 0 | 1 | 1 | 0 | 1 | 5 | 1 |
| 28 | 235 | 48 | 0 | 1 | 1 | 0 | 1 | 5 | 8 |
| 7 | 279 | 39 | 0 | 1 | 2 | 1 | 1 | 0 | 4 |
| 14 | 279 | 39 | 0 | 1 | 2 | 1 | 1 | 0 | 8 |
| 14 | 279 | 39 | 0 | 1 | 2 | 1 | 1 | 0 | 16 |
| 23 | 279 | 39 | 0 | 1 | 2 | 1 | 1 | 0 | 2 |
| 13 | 300 | 43 | 0 | 1 | 2 | 1 | 1 | 1 | 1 |
| 14 | 300 | 43 | 0 | 1 | 2 | 1 | 1 | 1 | 2 |

**Findings:**

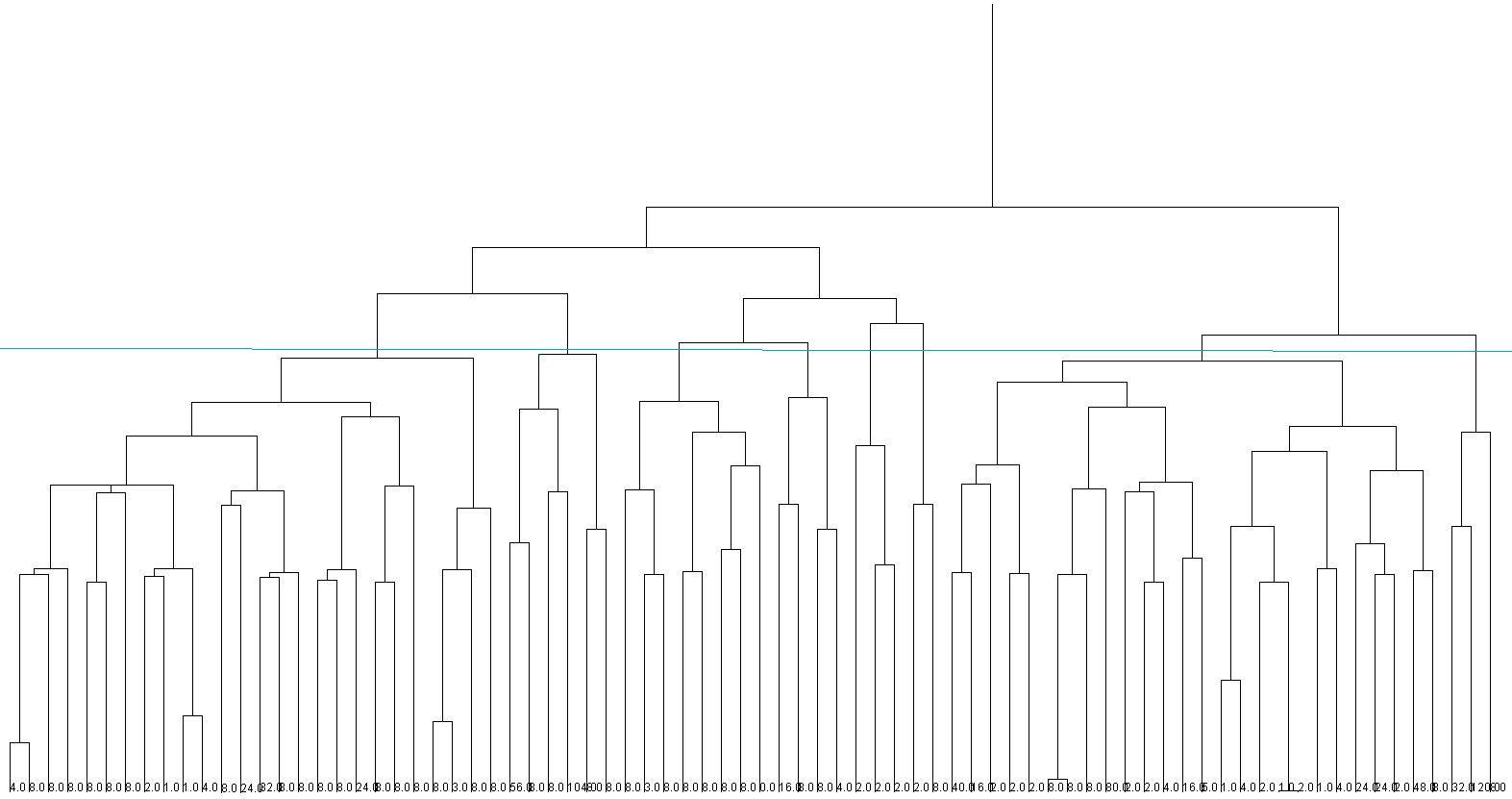
1. In this cluster, most no of instances with education 2.
2. Only cluster that has instances who have 5 pets.
3. In this cluster, all of them are social smoker
4. In this cluster, Majority of Disciplinary failure is zero

**Cluster 4:**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Reason for absence | Transportation expense | Age | Disciplinary failure | Education | Son | Social drinker | Social smoker | Pet | Absenteeism time in hours |
| 5 | 118 | 37 | 0 | 1 | 0 | 0 | 0 | 0 | 8 |
| 7 | 118 | 37 | 0 | 1 | 0 | 0 | 0 | 0 | 3 |
| 8 | 118 | 37 | 0 | 1 | 0 | 0 | 0 | 0 | 8 |
| 8 | 118 | 37 | 0 | 1 | 0 | 0 | 0 | 0 | 3 |
| 8 | 118 | 37 | 0 | 1 | 0 | 0 | 0 | 0 | 2 |
| 9 | 118 | 37 | 0 | 1 | 0 | 0 | 0 | 0 | 8 |
| 10 | 118 | 37 | 0 | 1 | 0 | 0 | 0 | 0 | 8 |
| 10 | 118 | 37 | 0 | 1 | 0 | 0 | 0 | 0 | 2 |
| 10 | 118 | 37 | 0 | 1 | 0 | 0 | 0 | 0 | 8 |
| 10 | 118 | 37 | 0 | 1 | 0 | 0 | 0 | 0 | 3 |
| 11 | 118 | 37 | 0 | 1 | 0 | 0 | 0 | 0 | 8 |
| 11 | 118 | 37 | 0 | 1 | 0 | 0 | 0 | 0 | 3 |
| 11 | 118 | 37 | 0 | 1 | 0 | 0 | 0 | 0 | 2 |
| 13 | 118 | 37 | 0 | 1 | 0 | 0 | 0 | 0 | 2 |
| 18 | 118 | 37 | 0 | 1 | 0 | 0 | 0 | 0 | 8 |
| 19 | 118 | 37 | 0 | 1 | 0 | 0 | 0 | 0 | 64 |
| 19 | 118 | 37 | 0 | 1 | 0 | 0 | 0 | 0 | 56 |
| 19 | 118 | 37 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 19 | 118 | 37 | 0 | 1 | 0 | 0 | 0 | 0 | 32 |
| 23 | 118 | 37 | 0 | 1 | 0 | 0 | 0 | 0 | 4 |
| 23 | 118 | 37 | 0 | 1 | 0 | 0 | 0 | 0 | 3 |
| 23 | 118 | 37 | 0 | 1 | 0 | 0 | 0 | 0 | 2 |
| 23 | 118 | 37 | 0 | 1 | 0 | 0 | 0 | 0 | 3 |
| 23 | 118 | 37 | 0 | 1 | 0 | 0 | 0 | 0 | 3 |
| 23 | 118 | 37 | 0 | 1 | 0 | 0 | 0 | 0 | 3 |
| 23 | 118 | 37 | 0 | 1 | 0 | 0 | 0 | 0 | 2 |
| 23 | 118 | 37 | 0 | 1 | 0 | 0 | 0 | 0 | 8 |
| 23 | 118 | 37 | 0 | 1 | 0 | 0 | 0 | 0 | 2 |
| 25 | 118 | 37 | 0 | 1 | 0 | 0 | 0 | 0 | 8 |
| 25 | 118 | 37 | 0 | 1 | 0 | 0 | 0 | 0 | 3 |
| 26 | 118 | 37 | 0 | 1 | 0 | 0 | 0 | 0 | 4 |
| 26 | 118 | 37 | 0 | 1 | 0 | 0 | 0 | 0 | 8 |
| 26 | 118 | 37 | 0 | 1 | 0 | 0 | 0 | 0 | 8 |
| 27 | 118 | 37 | 0 | 1 | 0 | 0 | 0 | 0 | 2 |
| 27 | 118 | 37 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 27 | 118 | 37 | 0 | 1 | 0 | 0 | 0 | 0 | 2 |
| 27 | 118 | 37 | 0 | 1 | 0 | 0 | 0 | 0 | 2 |
| 27 | 118 | 37 | 0 | 1 | 0 | 0 | 0 | 0 | 2 |
| 27 | 118 | 37 | 0 | 1 | 0 | 0 | 0 | 0 | 2 |
| 27 | 118 | 37 | 0 | 1 | 0 | 0 | 0 | 0 | 2 |

**Findings:**

1. This is the only cluster in which most reason of absence is (23 -Medical consultation)
2. In this cluster, most no of instances with education 3.
3. Only cluster that has instances who have no 4,5 pets.
4. Only cluster that has instances who are above 53 years old.
5. In this cluster, none of them are Social Drinker
6. In this cluster, none of them are Social smoker
7. Lowest average service time.



**Figure: Cutting point (8 cluster)**

**Cluster 0:**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Reason for absence | Transportation expense | Workload | Education | Social drinker | Social smoker | Pet | Absenteeism time in hours |
| 26 | 0 | 239554 | 1 | 1 | 0 | 1 | 4 |
| 23 | 4 | 239554 | 1 | 1 | 0 | 1 | 2 |
| 19 | 8 | 239554 | 1 | 1 | 0 | 0 | 40 |
| 18 | 24 | 205917 | 1 | 1 | 0 | 1 | 8 |
| 23 | 26 | 205917 | 1 | 1 | 0 | 1 | 1 |
| 18 | 28 | 205917 | 1 | 1 | 0 | 1 | 8 |
| 24 | 36 | 205917 | 1 | 1 | 0 | 1 | 8 |
| 23 | 44 | 241476 | 1 | 1 | 0 | 0 | 2 |
| 26 | 77 | 253465 | 1 | 1 | 0 | 1 | 8 |
| 10 | 85 | 306345 | 1 | 1 | 0 | 0 | 32 |
| 6 | 89 | 306345 | 1 | 1 | 0 | 0 | 8 |
| 7 | 96 | 306345 | 1 | 1 | 0 | 1 | 24 |
| 18 | 116 | 308593 | 1 | 1 | 0 | 0 | 8 |
| 18 | 130 | 308593 | 1 | 1 | 0 | 1 | 8 |
| 22 | 136 | 308593 | 1 | 1 | 0 | 1 | 3 |
| 28 | 140 | 302585 | 1 | 1 | 0 | 0 | 2 |
| 22 | 143 | 302585 | 1 | 1 | 0 | 1 | 8 |
| 28 | 155 | 343253 | 1 | 1 | 0 | 0 | 2 |
| 22 | 159 | 343253 | 1 | 1 | 0 | 1 | 8 |
| 1 | 165 | 343253 | 1 | 1 | 0 | 0 | 16 |
| 26 | 166 | 343253 | 1 | 1 | 0 | 0 | 16 |
| 13 | 155 | 343253 | 1 | 1 | 0 | 0 | 8 |
| 6 | 289 | 343253 | 1 | 1 | 0 | 1 | 8 |
| 28 | 155 | 326452 | 1 | 1 | 0 | 0 | 1 |
| 23 | 155 | 326452 | 1 | 1 | 0 | 0 | 1 |
| 19 | 260 | 326452 | 1 | 1 | 0 | 0 | 56 |
| 19 | 289 | 326452 | 1 | 1 | 0 | 1 | 8 |
| 12 | 155 | 326452 | 1 | 1 | 0 | 0 | 24 |
| 28 | 155 | 378884 | 1 | 1 | 0 | 0 | 2 |
| 28 | 155 | 378884 | 1 | 1 | 0 | 0 | 1 |
| 28 | 155 | 378884 | 1 | 1 | 0 | 0 | 2 |
| 23 | 155 | 377550 | 1 | 1 | 0 | 0 | 4 |
| 19 | 155 | 275312 | 1 | 1 | 0 | 0 | 16 |
| 25 | 155 | 275312 | 1 | 1 | 0 | 0 | 2 |
| 26 | 289 | 275312 | 1 | 1 | 0 | 1 | 8 |
| 19 | 289 | 275312 | 1 | 1 | 0 | 1 | 32 |
| 19 | 289 | 275312 | 1 | 1 | 0 | 1 | 8 |
| 19 | 289 | 265615 | 1 | 1 | 0 | 1 | 8 |
| 23 | 289 | 265615 | 1 | 1 | 0 | 1 | 1 |
| 23 | 289 | 265615 | 1 | 1 | 0 | 1 | 4 |
| 19 | 289 | 294217 | 1 | 1 | 0 | 1 | 24 |
| 24 | 289 | 265017 | 1 | 1 | 0 | 1 | 8 |

**Findings:**

1. This cluster has highest workload average. No other cluster is like this

**Cluster 1:**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Disciplinary failure | Reason for absence | Transportation expense | Age | Education | Social drinker | Social smoker | Pet | Absenteeism time in hours |
| 1 | 0 | 118 | 50 | 1 | 1 | 0 | 0 | 0 |
| 1 | 0 | 260 | 36 | 1 | 1 | 0 | 0 | 0 |
| 1 | 0 | 225 | 28 | 1 | 0 | 0 | 2 | 0 |
| 1 | 0 | 289 | 33 | 1 | 1 | 0 | 1 | 0 |
| 1 | 0 | 118 | 50 | 1 | 1 | 0 | 0 | 0 |
| 1 | 0 | 369 | 31 | 1 | 1 | 0 | 0 | 0 |
| 1 | 0 | 118 | 50 | 1 | 1 | 0 | 0 | 0 |
| 1 | 0 | 279 | 39 | 1 | 1 | 1 | 0 | 0 |
| 1 | 0 | 330 | 28 | 2 | 0 | 0 | 0 | 0 |
| 1 | 0 | 388 | 50 | 1 | 0 | 0 | 0 | 0 |
| 1 | 0 | 260 | 36 | 1 | 1 | 0 | 0 | 0 |
| 1 | 0 | 235 | 43 | 1 | 1 | 0 | 0 | 0 |
| 1 | 0 | 231 | 39 | 1 | 1 | 0 | 2 | 0 |
| 1 | 0 | 291 | 32 | 1 | 1 | 0 | 0 | 0 |
| 1 | 0 | 235 | 43 | 1 | 1 | 0 | 0 | 0 |
| 1 | 0 | 118 | 50 | 1 | 1 | 0 | 0 | 0 |
| 1 | 0 | 248 | 47 | 1 | 0 | 0 | 1 | 0 |
| 1 | 0 | 235 | 43 | 1 | 1 | 0 | 0 | 0 |
| 1 | 0 | 235 | 43 | 1 | 1 | 0 | 0 | 0 |
| 1 | 0 | 260 | 36 | 1 | 1 | 0 | 0 | 0 |
| 1 | 0 | 157 | 29 | 1 | 1 | 1 | 0 | 0 |
| 1 | 0 | 279 | 39 | 1 | 1 | 1 | 0 | 0 |
| 1 | 0 | 369 | 31 | 1 | 1 | 0 | 0 | 0 |
| 1 | 0 | 235 | 37 | 3 | 0 | 0 | 1 | 0 |
| 1 | 0 | 246 | 41 | 1 | 1 | 0 | 0 | 0 |
| 1 | 0 | 118 | 50 | 1 | 1 | 0 | 0 | 0 |
| 1 | 0 | 179 | 38 | 1 | 1 | 0 | 0 | 0 |
| 1 | 0 | 225 | 28 | 1 | 0 | 0 | 2 | 0 |
| 1 | 0 | 289 | 33 | 1 | 1 | 0 | 1 | 0 |
| 1 | 0 | 235 | 43 | 1 | 1 | 0 | 0 | 0 |
| 1 | 0 | 118 | 50 | 1 | 1 | 0 | 0 | 0 |
| 1 | 0 | 268 | 33 | 2 | 0 | 0 | 0 | 0 |
| 0 | 0 | 179 | 53 | 1 | 0 | 0 | 1 | 0 |

**Findings:**

1. Only cluster in which Disciplinary failure is always one (1) that means Yes.
2. In this cluster Absenteeism time in hours is always Zero (0)
3. Moreover, Reason of absence is always Zero (0) in this cluster.

**Cluster 2:**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Transportation expense | Age | Service time | Education | Son | Social drinker | Social smoker | Pet |
| 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 |
| 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 |
| 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 |
| 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 |
| 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 |
| 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 |
| 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 |
| 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 |
| 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 |
| 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 |
| 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 |
| 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 |
| 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 |
| 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 |
| 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 |
| 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 |
| 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 |
| 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 |
| 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 |
| 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 |
| 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 |
| 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 |
| 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 |
| 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 |
| 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 |
| 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 |
| 289 | 49 | 29 | 1 | 0 | 0 | 0 | 2 |
| 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 |
| 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 |
| 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 |
| 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 |
| 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 |
| 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 |
| 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 |
| 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 |
| 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 |
| 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 |
| 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 |
| 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 |
| 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 |
| 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 |
| 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 |
| 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 |

**Findings:**

1. This cluster has highest high school (1) educative person.
2. Only cluster, which average service time, is always highest.

**Cluster 3:**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Reason for absence | Transportation expense | Age | weight | Son | Social drinker | Social smoker | Pet | Absenteeism time in hours |
| 7 | 279 | 39 | 68 | 2 | 1 | 1 | 0 | 4 |
| 28 | 157 | 29 | 75 | 0 | 1 | 1 | 0 | 4 |
| 21 | 179 | 40 | 63 | 2 | 0 | 1 | 0 | 8 |
| 21 | 179 | 40 | 63 | 2 | 0 | 1 | 0 | 8 |
| 19 | 157 | 29 | 75 | 0 | 1 | 1 | 0 | 3 |
| 17 | 179 | 40 | 63 | 2 | 0 | 1 | 0 | 8 |
| 11 | 179 | 40 | 63 | 2 | 0 | 1 | 0 | 40 |
| 8 | 179 | 40 | 63 | 2 | 0 | 1 | 0 | 8 |
| 14 | 279 | 39 | 68 | 2 | 1 | 1 | 0 | 8 |
| 14 | 279 | 39 | 68 | 2 | 1 | 1 | 0 | 16 |
| 25 | 157 | 29 | 75 | 0 | 1 | 1 | 0 | 3 |
| 19 | 157 | 29 | 75 | 0 | 1 | 1 | 0 | 3 |
| 13 | 300 | 43 | 77 | 2 | 1 | 1 | 1 | 1 |
| 14 | 300 | 43 | 77 | 2 | 1 | 1 | 1 | 2 |
| 28 | 157 | 29 | 75 | 0 | 1 | 1 | 0 | 2 |
| 11 | 157 | 29 | 75 | 0 | 1 | 1 | 0 | 16 |
| 22 | 179 | 40 | 63 | 2 | 0 | 1 | 0 | 8 |
| 28 | 300 | 43 | 77 | 2 | 1 | 1 | 1 | 8 |
| 11 | 179 | 40 | 63 | 2 | 0 | 1 | 0 | 2 |
| 8 | 179 | 40 | 63 | 2 | 0 | 1 | 0 | 3 |
| 15 | 300 | 43 | 77 | 2 | 1 | 1 | 1 | 8 |
| 23 | 279 | 39 | 68 | 2 | 1 | 1 | 0 | 2 |
| 25 | 179 | 40 | 63 | 2 | 0 | 1 | 0 | 1 |
| 25 | 179 | 40 | 63 | 2 | 0 | 1 | 0 | 8 |
| 18 | 179 | 40 | 63 | 2 | 0 | 1 | 0 | 2 |
| 25 | 179 | 40 | 63 | 2 | 0 | 1 | 0 | 2 |
| 25 | 179 | 40 | 63 | 2 | 0 | 1 | 0 | 2 |
| 25 | 179 | 40 | 63 | 2 | 0 | 1 | 0 | 2 |
| 18 | 179 | 40 | 63 | 2 | 0 | 1 | 0 | 3 |
| 23 | 179 | 40 | 63 | 2 | 0 | 1 | 0 | 2 |
| 23 | 118 | 46 | 75 | 2 | 1 | 1 | 0 | 8 |
| 16 | 179 | 40 | 63 | 2 | 0 | 1 | 0 | 2 |
| 19 | 300 | 43 | 77 | 2 | 1 | 1 | 1 | 64 |
| 16 | 179 | 40 | 63 | 2 | 0 | 1 | 0 | 1 |
| 10 | 179 | 40 | 63 | 2 | 0 | 1 | 0 | 8 |
| 25 | 179 | 40 | 63 | 2 | 0 | 1 | 0 | 8 |
| 7 | 118 | 46 | 75 | 2 | 1 | 1 | 0 | 8 |

**Findings:**

1. This cluster is only cluster, which has lowest weight average (68).
2. Most of the person have no pet.

**Cluster 5:**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Transportation expense | Age | weight | Education | Son | Social drinker | Social smoker | Pet | Absenteeism time in hours |
| 235 | 37 | 88 | 3 | 1 | 0 | 0 | 1 | 8 |
| 189 | 33 | 69 | 1 | 2 | 0 | 0 | 2 | 8 |
| 248 | 47 | 86 | 1 | 2 | 0 | 0 | 1 | 2 |
| 330 | 28 | 84 | 2 | 0 | 0 | 0 | 0 | 8 |
| 235 | 37 | 88 | 3 | 1 | 0 | 0 | 1 | 4 |
| 184 | 27 | 58 | 1 | 0 | 0 | 0 | 0 | 2 |
| 118 | 37 | 83 | 1 | 0 | 0 | 0 | 0 | 4 |
| 118 | 37 | 83 | 1 | 0 | 0 | 0 | 0 | 3 |
| 225 | 28 | 69 | 1 | 1 | 0 | 0 | 2 | 2 |
| 118 | 37 | 83 | 1 | 0 | 0 | 0 | 0 | 2 |
| 225 | 28 | 69 | 1 | 1 | 0 | 0 | 2 | 3 |
| 248 | 47 | 86 | 1 | 2 | 0 | 0 | 1 | 1 |
| 118 | 37 | 83 | 1 | 0 | 0 | 0 | 0 | 3 |
| 179 | 30 | 56 | 3 | 0 | 0 | 0 | 0 | 1 |
| 225 | 28 | 69 | 1 | 1 | 0 | 0 | 2 | 3 |
| 118 | 37 | 83 | 1 | 0 | 0 | 0 | 0 | 3 |
| 225 | 28 | 69 | 1 | 1 | 0 | 0 | 2 | 2 |
| 248 | 47 | 86 | 1 | 2 | 0 | 0 | 1 | 2 |
| 225 | 28 | 69 | 1 | 1 | 0 | 0 | 2 | 3 |
| 225 | 28 | 69 | 1 | 1 | 0 | 0 | 2 | 2 |
| 225 | 28 | 69 | 1 | 1 | 0 | 0 | 2 | 1 |
| 189 | 33 | 69 | 1 | 2 | 0 | 0 | 2 | 8 |
| 225 | 28 | 69 | 1 | 1 | 0 | 0 | 2 | 1 |
| 225 | 28 | 69 | 1 | 1 | 0 | 0 | 2 | 3 |
| 225 | 28 | 69 | 1 | 1 | 0 | 0 | 2 | 3 |
| 248 | 47 | 86 | 1 | 2 | 0 | 0 | 1 | 1 |
| 225 | 28 | 69 | 1 | 1 | 0 | 0 | 2 | 3 |
| 248 | 47 | 86 | 1 | 2 | 0 | 0 | 1 | 1 |
| 118 | 37 | 83 | 1 | 0 | 0 | 0 | 0 | 64 |
| 235 | 37 | 88 | 3 | 1 | 0 | 0 | 1 | 8 |
| 225 | 28 | 69 | 1 | 1 | 0 | 0 | 2 | 2 |
| 118 | 37 | 83 | 1 | 0 | 0 | 0 | 0 | 56 |
| 225 | 28 | 69 | 1 | 1 | 0 | 0 | 2 | 3 |
| 225 | 28 | 69 | 1 | 1 | 0 | 0 | 2 | 2 |
| 118 | 37 | 83 | 1 | 0 | 0 | 0 | 0 | 2 |
| 225 | 28 | 69 | 1 | 1 | 0 | 0 | 2 | 2 |
| 225 | 28 | 69 | 1 | 1 | 0 | 0 | 2 | 1 |
| 118 | 37 | 83 | 1 | 0 | 0 | 0 | 0 | 1 |
| 118 | 37 | 83 | 1 | 0 | 0 | 0 | 0 | 1 |
| 225 | 28 | 69 | 1 | 1 | 0 | 0 | 2 | 2 |
| 184 | 27 | 58 | 1 | 0 | 0 | 0 | 0 | 2 |
| 225 | 28 | 69 | 1 | 1 | 0 | 0 | 2 | 2 |

**Findings:**

1. This is the only cluster where, there is no social drinker and no social smoker.
2. This is the only cluster where the person who have no son and they did not keep any pet.
3. Most (medical consultation (23)reason of absence.

**Cluster 6:**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Reason for absence | Transportation expense | Age | weight | Son | Social drinker | Social smoker | Pet | Absenteeism time in hours |
| 18 | 235 | 48 | 88 | 1 | 0 | 1 | 5 | 8 |
| 18 | 235 | 48 | 88 | 1 | 0 | 1 | 5 | 8 |
| 28 | 235 | 48 | 88 | 1 | 0 | 1 | 5 | 8 |
| 19 | 378 | 36 | 65 | 2 | 0 | 1 | 4 | 8 |
| 0 | 235 | 48 | 88 | 1 | 0 | 1 | 5 | 0 |
| 0 | 378 | 36 | 65 | 2 | 0 | 1 | 4 | 0 |
| 22 | 378 | 36 | 65 | 2 | 0 | 1 | 4 | 8 |
| 1 | 378 | 36 | 65 | 2 | 0 | 1 | 4 | 8 |
| 0 | 378 | 36 | 65 | 2 | 0 | 1 | 4 | 0 |
| 22 | 378 | 36 | 65 | 2 | 0 | 1 | 4 | 8 |
| 23 | 235 | 48 | 88 | 1 | 0 | 1 | 5 | 1 |
| 0 | 378 | 36 | 65 | 2 | 0 | 1 | 4 | 0 |
| 22 | 378 | 36 | 65 | 2 | 0 | 1 | 4 | 8 |
| 0 | 235 | 48 | 88 | 1 | 0 | 1 | 5 | 0 |

**Findings:**

1. This is the only cluster where every person have four or more than four pets.

**Cluster 7:**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Distance from Work | Transportation expense | Age | weight | Education | Son | Social drinker | Social smoker | Pet |
| 20 | 235 | 43 | 106 | 1 | 1 | 1 | 0 | 0 |
| 13 | 118 | 50 | 98 | 1 | 1 | 1 | 0 | 0 |
| 51 | 179 | 38 | 89 | 1 | 0 | 1 | 0 | 0 |
| 25 | 246 | 41 | 67 | 1 | 0 | 1 | 0 | 0 |
| 51 | 179 | 38 | 89 | 1 | 0 | 1 | 0 | 0 |
| 13 | 118 | 50 | 98 | 1 | 1 | 1 | 0 | 0 |
| 36 | 289 | 33 | 90 | 1 | 2 | 1 | 0 | 1 |
| 36 | 289 | 33 | 90 | 1 | 2 | 1 | 0 | 1 |
| 36 | 289 | 33 | 90 | 1 | 2 | 1 | 0 | 1 |
| 13 | 118 | 50 | 98 | 1 | 1 | 1 | 0 | 0 |
| 13 | 118 | 50 | 98 | 1 | 1 | 1 | 0 | 0 |
| 13 | 118 | 50 | 98 | 1 | 1 | 1 | 0 | 0 |
| 13 | 118 | 50 | 98 | 1 | 1 | 1 | 0 | 0 |
| 13 | 118 | 50 | 98 | 1 | 1 | 1 | 0 | 0 |
| 13 | 118 | 50 | 98 | 1 | 1 | 1 | 0 | 0 |
| 13 | 118 | 50 | 98 | 1 | 1 | 1 | 0 | 0 |
| 20 | 235 | 43 | 106 | 1 | 1 | 1 | 0 | 0 |
| 13 | 118 | 50 | 98 | 1 | 1 | 1 | 0 | 0 |
| 20 | 235 | 43 | 106 | 1 | 1 | 1 | 0 | 0 |
| 20 | 235 | 43 | 106 | 1 | 1 | 1 | 0 | 0 |
| 13 | 118 | 50 | 98 | 1 | 1 | 1 | 0 | 0 |
| 13 | 118 | 50 | 98 | 1 | 1 | 1 | 0 | 0 |
| 13 | 118 | 50 | 98 | 1 | 1 | 1 | 0 | 0 |
| 20 | 235 | 43 | 106 | 1 | 1 | 1 | 0 | 0 |
| 13 | 118 | 50 | 98 | 1 | 1 | 1 | 0 | 0 |
| 20 | 235 | 43 | 106 | 1 | 1 | 1 | 0 | 0 |
| 13 | 118 | 50 | 98 | 1 | 1 | 1 | 0 | 0 |
| 13 | 118 | 50 | 98 | 1 | 1 | 1 | 0 | 0 |
| 13 | 118 | 50 | 98 | 1 | 1 | 1 | 0 | 0 |
| 13 | 118 | 50 | 98 | 1 | 1 | 1 | 0 | 0 |
| 13 | 118 | 50 | 98 | 1 | 1 | 1 | 0 | 0 |
| 20 | 235 | 43 | 106 | 1 | 1 | 1 | 0 | 0 |
| 20 | 235 | 43 | 106 | 1 | 1 | 1 | 0 | 0 |
| 13 | 118 | 50 | 98 | 1 | 1 | 1 | 0 | 0 |
| 13 | 118 | 50 | 98 | 1 | 1 | 1 | 0 | 0 |
| 20 | 235 | 43 | 106 | 1 | 1 | 1 | 0 | 0 |
| 20 | 235 | 43 | 106 | 1 | 1 | 1 | 0 | 0 |
| 20 | 235 | 43 | 106 | 1 | 1 | 1 | 0 | 0 |
| 15 | 225 | 41 | 94 | 4 | 2 | 1 | 0 | 2 |
| 13 | 118 | 50 | 98 | 1 | 1 | 1 | 0 | 0 |
| 13 | 118 | 50 | 98 | 1 | 1 | 1 | 0 | 0 |

**Findings:**

1. Only cluster where average age is highest.
2. This cluster have lowest average distance and transportation cost.
3. Only cluster where persons have highest average weight (98).