**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.

**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.

**Method:**

Hierarchical Clustering.

**Cutting at 4 Cluster:**

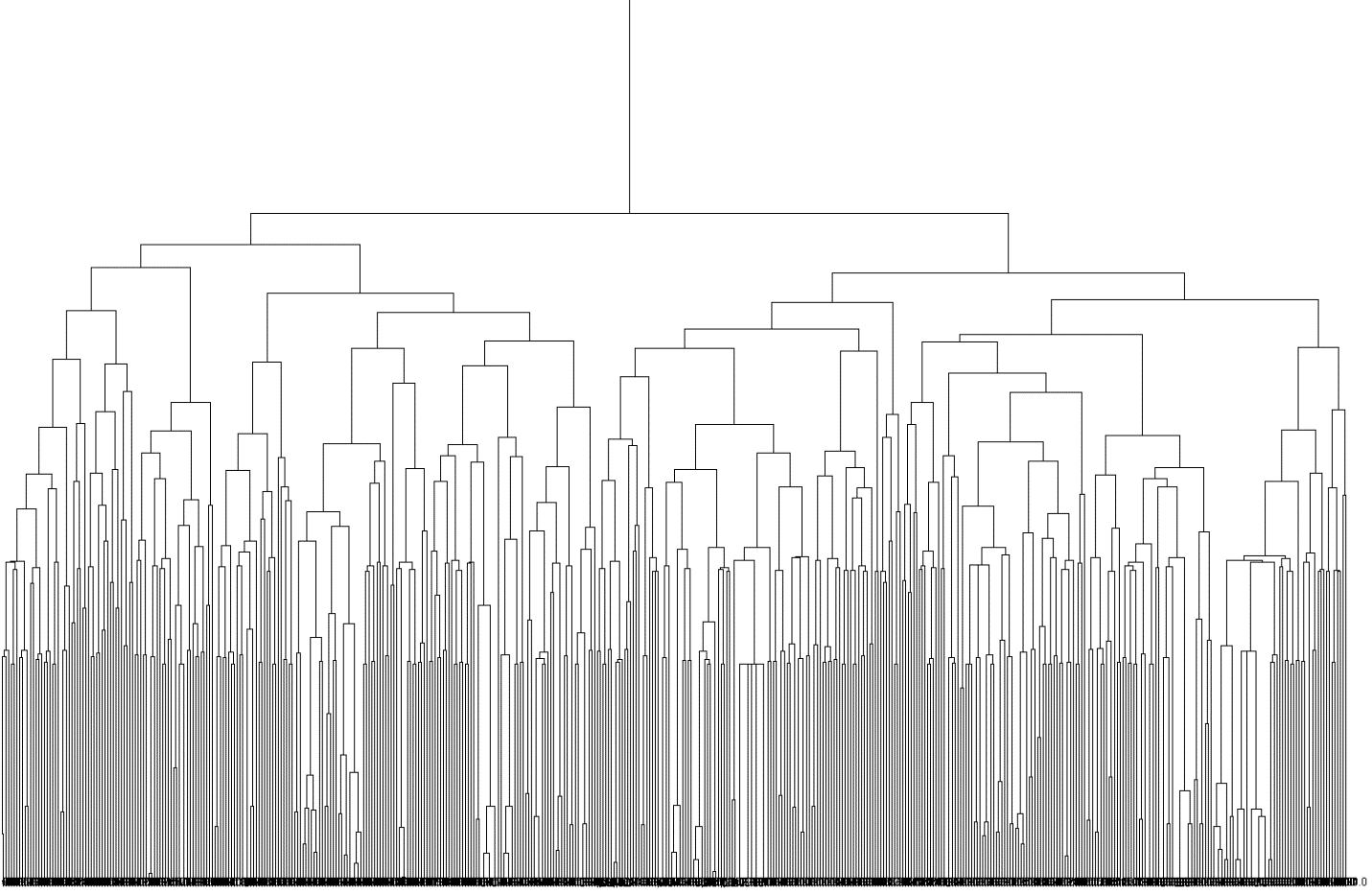


Fig 1: Cutting at 4 Cluster

**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 | 28 | 0 | 25 | 0 | 0 | 0 | 0 | 8 |
| 1 | 28 | 0 | 27 | 1 | 1 | 0 | 4 | 40 |
| 1 | 36 | 0 | 23 | 4 | 1 | 0 | 0 | 4 |
| 1 | 33 | 0 | 30 | 2 | 1 | 0 | 1 | 8 |
| 1 | 28 | 0 | 27 | 1 | 1 | 0 | 4 | 7 |
| 1 | 33 | 0 | 30 | 2 | 1 | 0 | 1 | 1 |
| 1 | 33 | 0 | 30 | 2 | 1 | 0 | 1 | 8 |
| 1 | 37 | 0 | 29 | 1 | 0 | 0 | 1 | 4 |
| 1 | 28 | 0 | 27 | 1 | 1 | 0 | 4 | 1 |
| 1 | 33 | 0 | 30 | 2 | 1 | 0 | 1 | 8 |
| 1 | 32 | 0 | 23 | 0 | 1 | 0 | 0 | 4 |
| 1 | 36 | 0 | 23 | 4 | 1 | 0 | 0 | 4 |
| 1 | 27 | 0 | 21 | 0 | 0 | 0 | 0 | 2 |
| 1 | 37 | 0 | 28 | 0 | 0 | 0 | 0 | 4 |
| 1 | 34 | 0 | 25 | 2 | 1 | 0 | 0 | 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 |
| 1 | 28 | 0 | 24 | 1 | 0 | 0 | 2 | 2 |
| 1 | 37 | 0 | 28 | 0 | 0 | 0 | 0 | 2 |
| 1 | 28 | 0 | 24 | 1 | 0 | 0 | 2 | 3 |
| 1 | 47 | 0 | 32 | 2 | 0 | 0 | 1 | 1 |
| 1 | 36 | 0 | 23 | 4 | 1 | 0 | 0 | 4 |
| 1 | 37 | 0 | 28 | 0 | 0 | 0 | 0 | 3 |
| 1 | 30 | 0 | 19 | 0 | 0 | 0 | 0 | 1 |
| 1 | 28 | 0 | 24 | 1 | 0 | 0 | 2 | 3 |
| 1 | 37 | 0 | 28 | 0 | 0 | 0 | 0 | 3 |
| 1 | 28 | 0 | 24 | 1 | 0 | 0 | 2 | 2 |
| 1 | 47 | 0 | 32 | 2 | 0 | 0 | 1 | 2 |
| 1 | 40 | 0 | 25 | 1 | 1 | 0 | 1 | 5 |
| 1 | 28 | 0 | 24 | 1 | 0 | 0 | 2 | 3 |
| 1 | 36 | 0 | 23 | 4 | 1 | 0 | 0 | 16 |
| 1 | 40 | 0 | 25 | 1 | 1 | 0 | 1 | 8 |
| 1 | 28 | 0 | 24 | 1 | 0 | 0 | 2 | 2 |
| 1 | 33 | 0 | 30 | 2 | 1 | 0 | 1 | 8 |
| 1 | 28 | 0 | 27 | 1 | 1 | 0 | 4 | 1 |
| 1 | 36 | 0 | 23 | 4 | 1 | 0 | 0 | 3 |

**Findings:**

1. Average absenteeism time in hours is highest

**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 |
| 1 | 50 | 1 | 178 | 1 | 1 | 0 | 0 | 0 |
| 1 | 47 | 1 | 165 | 2 | 0 | 0 | 1 | 0 |
| 1 | 43 | 1 | 167 | 1 | 1 | 0 | 0 | 0 |
| 1 | 43 | 1 | 167 | 1 | 1 | 0 | 0 | 0 |
| 1 | 36 | 1 | 168 | 4 | 1 | 0 | 0 | 0 |
| 1 | 29 | 1 | 185 | 0 | 1 | 1 | 0 | 0 |
| 1 | 39 | 1 | 168 | 2 | 1 | 1 | 0 | 0 |
| 1 | 31 | 1 | 169 | 3 | 1 | 0 | 0 | 0 |
| 3 | 37 | 1 | 172 | 1 | 0 | 0 | 1 | 0 |
| 1 | 41 | 1 | 170 | 0 | 1 | 0 | 0 | 0 |
| 1 | 50 | 1 | 178 | 1 | 1 | 0 | 0 | 0 |
| 1 | 38 | 1 | 170 | 0 | 1 | 0 | 0 | 0 |
| 1 | 28 | 1 | 169 | 1 | 0 | 0 | 2 | 0 |
| 1 | 33 | 1 | 172 | 2 | 1 | 0 | 1 | 0 |
| 1 | 43 | 1 | 167 | 1 | 1 | 0 | 0 | 0 |
| 1 | 50 | 1 | 178 | 1 | 1 | 0 | 0 | 0 |
| 2 | 33 | 1 | 178 | 0 | 0 | 0 | 0 | 0 |
| 1 | 53 | 0 | 175 | 1 | 0 | 0 | 1 | 0 |

**Findings:**

1. Most number of Disciplinary failure
2. All of the Absenteeism time in hours is 0

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** |
| **1** | **43** | **0** | **167** | **38** | **1** | **0** | **0** | **8** |
| **1** | **38** | **0** | **170** | **31** | **1** | **0** | **0** | **3** |
| **1** | **38** | **0** | **170** | **31** | **1** | **0** | **0** | **3** |
| **1** | **38** | **0** | **170** | **31** | **1** | **0** | **0** | **3** |
| **1** | **38** | **0** | **170** | **31** | **1** | **0** | **0** | **3** |
| **1** | **38** | **0** | **170** | **31** | **1** | **0** | **0** | **3** |
| **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** | **8** |
| **1** | **50** | **0** | **178** | **31** | **1** | **0** | **0** | **2** |
| **1** | **38** | **0** | **170** | **31** | **1** | **0** | **0** | **8** |
| **1** | **38** | **0** | **170** | **31** | **1** | **0** | **0** | **24** |
| **1** | **38** | **0** | **170** | **31** | **1** | **0** | **0** | **3** |
| **1** | **41** | **0** | **170** | **23** | **1** | **0** | **0** | **24** |
| **1** | **38** | **0** | **170** | **31** | **1** | **0** | **0** | **24** |
| **1** | **50** | **0** | **178** | **31** | **1** | **0** | **0** | **1** |
| **1** | **33** | **0** | **172** | **30** | **1** | **0** | **1** | **16** |
| **1** | **33** | **0** | **172** | **30** | **1** | **0** | **1** | **8** |
| **1** | **38** | **0** | **170** | **31** | **1** | **0** | **0** | **8** |
| **1** | **38** | **0** | **170** | **31** | **1** | **0** | **0** | **1** |
| **1** | **33** | **0** | **172** | **30** | **1** | **0** | **1** | **24** |
| **1** | **38** | **0** | **170** | **31** | **1** | **0** | **0** | **1** |
| **1** | **50** | **0** | **178** | **31** | **1** | **0** | **0** | **24** |
| **1** | **38** | **0** | **170** | **31** | **1** | **0** | **0** | **8** |
| **1** | **50** | **0** | **178** | **31** | **1** | **0** | **0** | **8** |
| **1** | **50** | **0** | **178** | **31** | **1** | **0** | **0** | **1** |
| **1** | **50** | **0** | **178** | **31** | **1** | **0** | **0** | **80** |
| **1** | **38** | **0** | **170** | **31** | **1** | **0** | **0** | **2** |
| **1** | **49** | **0** | **172** | **36** | **0** | **0** | **2** | **2** |
| **1** | **50** | **0** | **178** | **31** | **1** | **0** | **0** | **8** |
| **1** | **38** | **0** | **170** | **31** | **1** | **0** | **0** | **8** |
| **1** | **50** | **0** | **178** | **31** | **1** | **0** | **0** | **3** |
| **1** | **50** | **0** | **178** | **31** | **1** | **0** | **0** | **1** |
| **1** | **38** | **0** | **170** | **31** | **1** | **0** | **0** | **8** |
| **1** | **38** | **0** | **170** | **31** | **1** | **0** | **0** | **3** |
| **1** | **38** | **0** | **170** | **31** | **1** | **0** | **0** | **8** |
| **1** | **38** | **0** | **170** | **31** | **1** | **0** | **0** | **1** |
| **1** | **43** | **0** | **167** | **38** | **1** | **0** | **0** | **8** |
| **1** | **50** | **0** | **178** | **31** | **1** | **0** | **0** | **1** |

**Findings:**

1. Most of instances have body mass index 31.

**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 |
| 1 | 48 | 1 | 163 | 33 | 0 | 1 | 5 | 0 |
| 1 | 36 | 1 | 174 | 21 | 0 | 1 | 4 | 0 |
| 1 | 36 | 0 | 174 | 21 | 0 | 1 | 4 | 8 |
| 1 | 29 | 0 | 185 | 22 | 1 | 1 | 0 | 3 |
| 1 | 29 | 0 | 185 | 22 | 1 | 1 | 0 | 3 |
| 1 | 43 | 0 | 175 | 25 | 1 | 1 | 1 | 1 |
| 1 | 43 | 0 | 175 | 25 | 1 | 1 | 1 | 2 |
| 1 | 36 | 0 | 174 | 21 | 0 | 1 | 4 | 8 |
| 1 | 36 | 1 | 174 | 21 | 0 | 1 | 4 | 0 |
| 1 | 29 | 0 | 185 | 22 | 1 | 1 | 0 | 2 |
| 1 | 29 | 0 | 185 | 22 | 1 | 1 | 0 | 16 |
| 2 | 40 | 0 | 170 | 22 | 0 | 1 | 0 | 8 |
| 1 | 36 | 0 | 174 | 21 | 0 | 1 | 4 | 8 |
| 1 | 43 | 0 | 175 | 25 | 1 | 1 | 1 | 8 |
| 2 | 40 | 0 | 170 | 22 | 0 | 1 | 0 | 2 |
| 2 | 40 | 0 | 170 | 22 | 0 | 1 | 0 | 3 |
| 1 | 43 | 0 | 175 | 25 | 1 | 1 | 1 | 8 |
| 1 | 48 | 0 | 163 | 33 | 0 | 1 | 5 | 1 |
| 1 | 39 | 0 | 168 | 24 | 1 | 1 | 0 | 2 |
| 2 | 40 | 0 | 170 | 22 | 0 | 1 | 0 | 1 |
| 2 | 40 | 0 | 170 | 22 | 0 | 1 | 0 | 8 |
| 2 | 40 | 0 | 170 | 22 | 0 | 1 | 0 | 2 |
| 2 | 40 | 0 | 170 | 22 | 0 | 1 | 0 | 2 |
| 2 | 40 | 0 | 170 | 22 | 0 | 1 | 0 | 2 |
| 2 | 40 | 0 | 170 | 22 | 0 | 1 | 0 | 2 |
| 2 | 40 | 0 | 170 | 22 | 0 | 1 | 0 | 3 |
| 2 | 40 | 0 | 170 | 22 | 0 | 1 | 0 | 2 |
| 1 | 46 | 0 | 175 | 25 | 1 | 1 | 0 | 8 |
| 2 | 40 | 0 | 170 | 22 | 0 | 1 | 0 | 2 |
| 1 | 43 | 0 | 175 | 25 | 1 | 1 | 1 | 64 |
| 1 | 36 | 1 | 174 | 21 | 0 | 1 | 4 | 0 |
| 2 | 40 | 0 | 170 | 22 | 0 | 1 | 0 | 1 |
| 2 | 40 | 0 | 170 | 22 | 0 | 1 | 0 | 8 |
| 2 | 40 | 0 | 170 | 22 | 0 | 1 | 0 | 8 |
| 1 | 46 | 0 | 175 | 25 | 1 | 1 | 0 | 8 |
| 1 | 36 | 0 | 174 | 21 | 0 | 1 | 4 | 8 |
| 1 | 48 | 1 | 163 | 33 | 0 | 1 | 5 | 0 |

**Findings:**

1. All of them are social smoker.
2. Most of them are nondrinker.

**Cutting at 8 Cluster:**

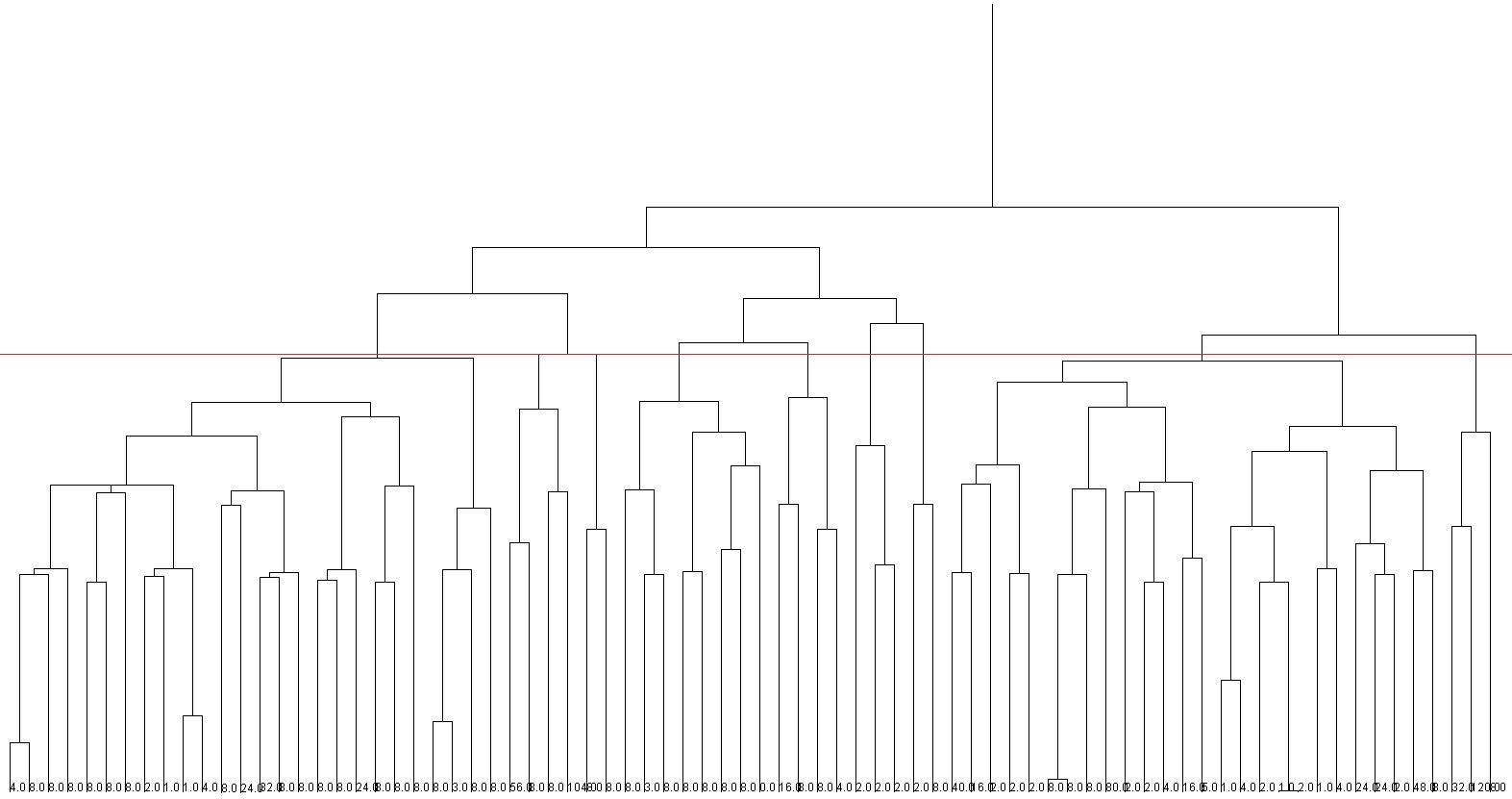


Fig 1: Cutting at 8 Cluster

**Cluster 0:**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Reason for absence | Transportation expense | Age | Workload | Education | Son | Social drinker | Social smoker | Pet | Absenteeism time in hours |
| 26 | 289 | 33 | 239554 | 1 | 2 | 1 | 0 | 1 | 4 |
| 23 | 289 | 33 | 239554 | 1 | 2 | 1 | 0 | 1 | 2 |
| 19 | 155 | 34 | 239554 | 1 | 2 | 1 | 0 | 0 | 40 |
| 18 | 289 | 33 | 205917 | 1 | 2 | 1 | 0 | 1 | 8 |
| 23 | 289 | 33 | 205917 | 1 | 2 | 1 | 0 | 1 | 1 |
| 18 | 289 | 33 | 205917 | 1 | 2 | 1 | 0 | 1 | 8 |
| 24 | 289 | 33 | 205917 | 1 | 2 | 1 | 0 | 1 | 8 |
| 23 | 155 | 34 | 241476 | 1 | 2 | 1 | 0 | 0 | 2 |
| 26 | 289 | 33 | 253465 | 1 | 2 | 1 | 0 | 1 | 8 |
| 10 | 155 | 34 | 306345 | 1 | 2 | 1 | 0 | 0 | 32 |
| 6 | 155 | 34 | 306345 | 1 | 2 | 1 | 0 | 0 | 8 |
| 7 | 289 | 33 | 306345 | 1 | 2 | 1 | 0 | 1 | 24 |
| 18 | 155 | 34 | 308593 | 1 | 2 | 1 | 0 | 0 | 8 |
| 18 | 289 | 33 | 308593 | 1 | 2 | 1 | 0 | 1 | 8 |
| 22 | 289 | 33 | 308593 | 1 | 2 | 1 | 0 | 1 | 3 |
| 28 | 155 | 34 | 302585 | 1 | 2 | 1 | 0 | 0 | 2 |
| 22 | 289 | 33 | 302585 | 1 | 2 | 1 | 0 | 1 | 8 |
| 28 | 291 | 32 | 343253 | 1 | 0 | 1 | 0 | 0 | 2 |
| 22 | 291 | 40 | 343253 | 1 | 1 | 1 | 0 | 1 | 8 |
| 1 | 155 | 34 | 343253 | 1 | 2 | 1 | 0 | 0 | 16 |
| 26 | 260 | 36 | 343253 | 1 | 4 | 1 | 0 | 0 | 16 |
| 13 | 155 | 34 | 343253 | 1 | 2 | 1 | 0 | 0 | 8 |
| 6 | 289 | 33 | 343253 | 1 | 2 | 1 | 0 | 1 | 8 |
| 28 | 155 | 34 | 326452 | 1 | 2 | 1 | 0 | 0 | 1 |
| 23 | 155 | 34 | 326452 | 1 | 2 | 1 | 0 | 0 | 1 |
| 19 | 260 | 36 | 326452 | 1 | 4 | 1 | 0 | 0 | 56 |
| 19 | 289 | 33 | 326452 | 1 | 2 | 1 | 0 | 1 | 8 |
| 12 | 155 | 34 | 326452 | 1 | 2 | 1 | 0 | 0 | 24 |
| 28 | 155 | 34 | 378884 | 1 | 2 | 1 | 0 | 0 | 2 |
| 28 | 155 | 34 | 378884 | 1 | 2 | 1 | 0 | 0 | 1 |
| 28 | 155 | 34 | 378884 | 1 | 2 | 1 | 0 | 0 | 2 |
| 23 | 155 | 34 | 377550 | 1 | 2 | 1 | 0 | 0 | 4 |
| 19 | 155 | 34 | 275312 | 1 | 2 | 1 | 0 | 0 | 16 |
| 25 | 155 | 34 | 275312 | 1 | 2 | 1 | 0 | 0 | 2 |
| 26 | 289 | 33 | 275312 | 1 | 2 | 1 | 0 | 1 | 8 |
| 19 | 289 | 33 | 275312 | 1 | 2 | 1 | 0 | 1 | 32 |
| 19 | 289 | 33 | 275312 | 1 | 2 | 1 | 0 | 1 | 8 |
| 19 | 289 | 33 | 265615 | 1 | 2 | 1 | 0 | 1 | 8 |
| 23 | 289 | 33 | 265615 | 1 | 2 | 1 | 0 | 1 | 1 |
| 23 | 289 | 33 | 265615 | 1 | 2 | 1 | 0 | 1 | 4 |
| 19 | 289 | 33 | 294217 | 1 | 2 | 1 | 0 | 1 | 24 |
| 24 | 289 | 33 | 265017 | 1 | 2 | 1 | 0 | 1 | 8 |
| 26 | 289 | 33 | 265017 | 1 | 2 | 1 | 0 | 1 | 8 |
| 22 | 289 | 33 | 265017 | 1 | 2 | 1 | 0 | 1 | 8 |
| 11 | 155 | 34 | 284031 | 1 | 2 | 1 | 0 | 0 | 120 |
| 19 | 289 | 33 | 236629 | 1 | 2 | 1 | 0 | 1 | 8 |
| 23 | 155 | 34 | 330061 | 1 | 2 | 1 | 0 | 0 | 2 |
| 23 | 155 | 34 | 330061 | 1 | 2 | 1 | 0 | 0 | 4 |
| 26 | 289 | 33 | 330061 | 1 | 2 | 1 | 0 | 1 | 8 |

**Findings:**

1. This cluster has highest workload average.

**Cluster 1:**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Disciplinary failure | Reason for absence | Transportation expense | Age | Workload | Education | Son | Social drinker | Social smoker | Pet | Absenteeism time in hours |
| 1 | 0 | 118 | 50 | 239554 | 1 | 1 | 1 | 0 | 0 | 0 |
| 1 | 0 | 260 | 36 | 241476 | 1 | 4 | 1 | 0 | 0 | 0 |
| 1 | 0 | 225 | 28 | 241476 | 1 | 1 | 0 | 0 | 2 | 0 |
| 1 | 0 | 289 | 33 | 241476 | 1 | 2 | 1 | 0 | 1 | 0 |
| 1 | 0 | 118 | 50 | 241476 | 1 | 1 | 1 | 0 | 0 | 0 |
| 1 | 0 | 369 | 31 | 241476 | 1 | 3 | 1 | 0 | 0 | 0 |
| 1 | 0 | 118 | 50 | 253465 | 1 | 1 | 1 | 0 | 0 | 0 |
| 1 | 0 | 279 | 39 | 378884 | 1 | 2 | 1 | 1 | 0 | 0 |
| 1 | 0 | 330 | 28 | 378884 | 2 | 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 388 | 50 | 378884 | 1 | 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 260 | 36 | 275312 | 1 | 4 | 1 | 0 | 0 | 0 |
| 1 | 0 | 235 | 43 | 294217 | 1 | 1 | 1 | 0 | 0 | 0 |
| 1 | 0 | 231 | 39 | 294217 | 1 | 2 | 1 | 0 | 2 | 0 |
| 1 | 0 | 291 | 32 | 294217 | 1 | 0 | 1 | 0 | 0 | 0 |
| 1 | 0 | 235 | 43 | 294217 | 1 | 1 | 1 | 0 | 0 | 0 |
| 1 | 0 | 118 | 50 | 265017 | 1 | 1 | 1 | 0 | 0 | 0 |
| 1 | 0 | 248 | 47 | 265017 | 1 | 2 | 0 | 0 | 1 | 0 |
| 1 | 0 | 235 | 43 | 265017 | 1 | 1 | 1 | 0 | 0 | 0 |
| 1 | 0 | 235 | 43 | 265017 | 1 | 1 | 1 | 0 | 0 | 0 |
| 1 | 0 | 260 | 36 | 265017 | 1 | 4 | 1 | 0 | 0 | 0 |
| 1 | 0 | 157 | 29 | 265017 | 1 | 0 | 1 | 1 | 0 | 0 |
| 1 | 0 | 279 | 39 | 284031 | 1 | 2 | 1 | 1 | 0 | 0 |
| 1 | 0 | 369 | 31 | 244387 | 1 | 3 | 1 | 0 | 0 | 0 |
| 1 | 0 | 235 | 37 | 244387 | 3 | 1 | 0 | 0 | 1 | 0 |
| 1 | 0 | 246 | 41 | 244387 | 1 | 0 | 1 | 0 | 0 | 0 |
| 1 | 0 | 118 | 50 | 244387 | 1 | 1 | 1 | 0 | 0 | 0 |
| 1 | 0 | 179 | 38 | 253957 | 1 | 0 | 1 | 0 | 0 | 0 |
| 1 | 0 | 225 | 28 | 284853 | 1 | 1 | 0 | 0 | 2 | 0 |
| 1 | 0 | 289 | 33 | 268519 | 1 | 2 | 1 | 0 | 1 | 0 |
| 1 | 0 | 235 | 43 | 268519 | 1 | 1 | 1 | 0 | 0 | 0 |
| 1 | 0 | 118 | 50 | 237656 | 1 | 1 | 1 | 0 | 0 | 0 |
| 1 | 0 | 268 | 33 | 275089 | 2 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 179 | 53 | 271219 | 1 | 1 | 0 | 0 | 1 | 0 |

**Findings:**

1. Only cluster in which Reason of absence is always 0
2. Only cluster in which Absenteeism\_time\_in\_hours is always (0)
3. Only cluster in which Disciplinary failure is always one (1)

**Cluster 2:**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Reason for absence | Transportation expense | Age | Service time | Education | Son | Social drinker | Social smoker | Pet | Absenteeism time in hours |
| 23 | 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 | 2 |
| 23 | 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 | 2 |
| 11 | 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 | 1 |
| 23 | 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 | 4 |
| 23 | 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 | 2 |
| 21 | 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 | 8 |
| 11 | 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 | 1 |
| 23 | 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 | 2 |
| 18 | 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 | 8 |
| 23 | 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 | 2 |
| 23 | 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 | 4 |
| 23 | 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 | 3 |
| 23 | 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 | 3 |
| 23 | 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 | 3 |
| 23 | 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 | 3 |
| 23 | 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 | 3 |
| 23 | 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 | 8 |
| 23 | 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 | 1 |
| 13 | 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 | 8 |
| 11 | 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 | 8 |
| 13 | 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 | 24 |
| 18 | 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 | 8 |
| 12 | 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 | 1 |
| 11 | 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 | 1 |
| 11 | 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 | 8 |
| 11 | 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 | 2 |
| 28 | 289 | 49 | 29 | 1 | 0 | 0 | 0 | 2 | 2 |
| 26 | 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 | 8 |
| 11 | 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 | 8 |
| 23 | 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 | 3 |
| 13 | 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 | 8 |
| 23 | 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 | 1 |
| 13 | 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 | 8 |
| 28 | 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 | 1 |
| 6 | 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 | 8 |
| 28 | 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 | 3 |
| 28 | 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 | 1 |
| 23 | 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 | 1 |
| 28 | 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 | 2 |
| 28 | 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 | 1 |
| 28 | 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 | 1 |
| 28 | 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 | 1 |
| 28 | 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 | 1 |
| 28 | 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 | 3 |
| 28 | 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 | 1 |
| 28 | 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 | 1 |
| 27 | 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 | 3 |
| 23 | 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 | 3 |
| 27 | 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 | 2 |
| 27 | 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 | 3 |
| 10 | 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 | 8 |
| 27 | 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 | 3 |
| 27 | 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 | 3 |
| 27 | 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 | 3 |
| 27 | 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 | 3 |
| 27 | 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 | 3 |
| 27 | 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 | 3 |
| 28 | 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 | 2 |
| 28 | 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 | 16 |
| 28 | 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 | 8 |
| 28 | 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 | 4 |
| 28 | 179 | 38 | 18 | 1 | 0 | 1 | 0 | 0 | 8 |

**Findings:**

1. All of them are education 1(high school)
2. This cluster has highest average service time.

**Cluster 3:**

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

**Findings:**

1. Only cluster which has lowest weight (68).
2. Most of them have no pet.

**Cluster 5:**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Reason for absence | Transportation expense | Age | weight | Education | Son | Social drinker | Social smoker | Pet | Absenteeism time in hours |
| 22 | 235 | 37 | 88 | 3 | 1 | 0 | 0 | 1 | 8 |
| 11 | 189 | 33 | 69 | 1 | 2 | 0 | 0 | 2 | 8 |
| 23 | 248 | 47 | 86 | 1 | 2 | 0 | 0 | 1 | 2 |
| 10 | 330 | 28 | 84 | 2 | 0 | 0 | 0 | 0 | 8 |
| 23 | 235 | 37 | 88 | 3 | 1 | 0 | 0 | 1 | 4 |
| 23 | 184 | 27 | 58 | 1 | 0 | 0 | 0 | 0 | 2 |
| 23 | 118 | 37 | 83 | 1 | 0 | 0 | 0 | 0 | 4 |
| 23 | 118 | 37 | 83 | 1 | 0 | 0 | 0 | 0 | 3 |
| 23 | 225 | 28 | 69 | 1 | 1 | 0 | 0 | 2 | 2 |
| 23 | 118 | 37 | 83 | 1 | 0 | 0 | 0 | 0 | 2 |
| 18 | 225 | 28 | 69 | 1 | 1 | 0 | 0 | 2 | 3 |
| 23 | 248 | 47 | 86 | 1 | 2 | 0 | 0 | 1 | 1 |
| 23 | 118 | 37 | 83 | 1 | 0 | 0 | 0 | 0 | 3 |
| 23 | 179 | 30 | 56 | 3 | 0 | 0 | 0 | 0 | 1 |
| 23 | 225 | 28 | 69 | 1 | 1 | 0 | 0 | 2 | 3 |
| 23 | 118 | 37 | 83 | 1 | 0 | 0 | 0 | 0 | 3 |
| 23 | 225 | 28 | 69 | 1 | 1 | 0 | 0 | 2 | 2 |
| 23 | 248 | 47 | 86 | 1 | 2 | 0 | 0 | 1 | 2 |
| 23 | 225 | 28 | 69 | 1 | 1 | 0 | 0 | 2 | 3 |
| 28 | 225 | 28 | 69 | 1 | 1 | 0 | 0 | 2 | 2 |
| 23 | 225 | 28 | 69 | 1 | 1 | 0 | 0 | 2 | 1 |
| 22 | 189 | 33 | 69 | 1 | 2 | 0 | 0 | 2 | 8 |
| 23 | 225 | 28 | 69 | 1 | 1 | 0 | 0 | 2 | 1 |
| 23 | 225 | 28 | 69 | 1 | 1 | 0 | 0 | 2 | 3 |
| 13 | 225 | 28 | 69 | 1 | 1 | 0 | 0 | 2 | 3 |
| 28 | 248 | 47 | 86 | 1 | 2 | 0 | 0 | 1 | 1 |
| 28 | 225 | 28 | 69 | 1 | 1 | 0 | 0 | 2 | 3 |
| 23 | 248 | 47 | 86 | 1 | 2 | 0 | 0 | 1 | 1 |
| 19 | 118 | 37 | 83 | 1 | 0 | 0 | 0 | 0 | 64 |
| 26 | 235 | 37 | 88 | 3 | 1 | 0 | 0 | 1 | 8 |
| 23 | 225 | 28 | 69 | 1 | 1 | 0 | 0 | 2 | 2 |
| 19 | 118 | 37 | 83 | 1 | 0 | 0 | 0 | 0 | 56 |
| 28 | 225 | 28 | 69 | 1 | 1 | 0 | 0 | 2 | 3 |
| 23 | 225 | 28 | 69 | 1 | 1 | 0 | 0 | 2 | 2 |
| 27 | 118 | 37 | 83 | 1 | 0 | 0 | 0 | 0 | 2 |
| 23 | 225 | 28 | 69 | 1 | 1 | 0 | 0 | 2 | 2 |
| 23 | 225 | 28 | 69 | 1 | 1 | 0 | 0 | 2 | 1 |
| 19 | 118 | 37 | 83 | 1 | 0 | 0 | 0 | 0 | 1 |
| 27 | 118 | 37 | 83 | 1 | 0 | 0 | 0 | 0 | 1 |
| 27 | 225 | 28 | 69 | 1 | 1 | 0 | 0 | 2 | 2 |
| 23 | 184 | 27 | 58 | 1 | 0 | 0 | 0 | 0 | 2 |
| 28 | 225 | 28 | 69 | 1 | 1 | 0 | 0 | 2 | 2 |
| 27 | 225 | 28 | 69 | 1 | 1 | 0 | 0 | 2 | 1 |
| 27 | 118 | 37 | 83 | 1 | 0 | 0 | 0 | 0 | 2 |
| 27 | 225 | 28 | 69 | 1 | 1 | 0 | 0 | 2 | 2 |
| 27 | 118 | 37 | 83 | 1 | 0 | 0 | 0 | 0 | 2 |
| 27 | 118 | 37 | 83 | 1 | 0 | 0 | 0 | 0 | 2 |
| 27 | 118 | 37 | 83 | 1 | 0 | 0 | 0 | 0 | 2 |
| 27 | 118 | 37 | 83 | 1 | 0 | 0 | 0 | 0 | 2 |
| 27 | 118 | 37 | 83 | 1 | 0 | 0 | 0 | 0 | 2 |
| 27 | 118 | 37 | 83 | 1 | 0 | 0 | 0 | 0 | 2 |
| 18 | 179 | 30 | 56 | 3 | 0 | 0 | 0 | 0 | 8 |
| 27 | 118 | 37 | 83 | 1 | 0 | 0 | 0 | 0 | 2 |
| 23 | 184 | 27 | 58 | 1 | 0 | 0 | 0 | 0 | 2 |
| 27 | 118 | 37 | 83 | 1 | 0 | 0 | 0 | 0 | 2 |
| 27 | 118 | 37 | 83 | 1 | 0 | 0 | 0 | 0 | 0 |
| 23 | 225 | 28 | 69 | 1 | 1 | 0 | 0 | 2 | 1 |
| 23 | 184 | 27 | 58 | 1 | 0 | 0 | 0 | 0 | 1 |
| 23 | 189 | 33 | 69 | 1 | 2 | 0 | 0 | 2 | 8 |
| 11 | 388 | 50 | 76 | 1 | 0 | 0 | 0 | 0 | 8 |
| 1 | 388 | 50 | 76 | 1 | 0 | 0 | 0 | 0 | 8 |
| 28 | 225 | 28 | 69 | 1 | 1 | 0 | 0 | 2 | 2 |
| 23 | 225 | 28 | 69 | 1 | 1 | 0 | 0 | 2 | 2 |
| 23 | 179 | 30 | 56 | 3 | 0 | 0 | 0 | 0 | 1 |
| 23 | 184 | 27 | 58 | 1 | 0 | 0 | 0 | 0 | 8 |
| 25 | 225 | 28 | 69 | 1 | 1 | 0 | 0 | 2 | 3 |
| 18 | 330 | 28 | 84 | 2 | 0 | 0 | 0 | 0 | 8 |
| 23 | 330 | 28 | 84 | 2 | 0 | 0 | 0 | 0 | 1 |
| 23 | 225 | 28 | 69 | 1 | 1 | 0 | 0 | 2 | 1 |
| 19 | 189 | 33 | 69 | 1 | 2 | 0 | 0 | 2 | 8 |
| 13 | 179 | 30 | 56 | 3 | 0 | 0 | 0 | 0 | 8 |
| 14 | 248 | 47 | 86 | 1 | 2 | 0 | 0 | 1 | 3 |
| 23 | 225 | 28 | 69 | 1 | 1 | 0 | 0 | 2 | 1 |
| 23 | 225 | 28 | 69 | 1 | 1 | 0 | 0 | 2 | 2 |
| 11 | 225 | 28 | 69 | 1 | 1 | 0 | 0 | 2 | 8 |
| 13 | 179 | 30 | 56 | 3 | 0 | 0 | 0 | 0 | 1 |
| 11 | 225 | 28 | 69 | 1 | 1 | 0 | 0 | 2 | 8 |
| 11 | 225 | 28 | 69 | 1 | 1 | 0 | 0 | 2 | 16 |
| 28 | 225 | 28 | 69 | 1 | 1 | 0 | 0 | 2 | 2 |
| 14 | 248 | 47 | 86 | 1 | 2 | 0 | 0 | 1 | 3 |
| 28 | 225 | 28 | 69 | 1 | 1 | 0 | 0 | 2 | 1 |
| 23 | 225 | 28 | 69 | 1 | 1 | 0 | 0 | 2 | 1 |
| 28 | 225 | 28 | 69 | 1 | 1 | 0 | 0 | 2 | 2 |
| 28 | 248 | 47 | 86 | 1 | 2 | 0 | 0 | 1 | 8 |
| 7 | 235 | 37 | 88 | 3 | 1 | 0 | 0 | 1 | 3 |
| 19 | 225 | 28 | 69 | 1 | 1 | 0 | 0 | 2 | 8 |
| 7 | 184 | 27 | 58 | 1 | 0 | 0 | 0 | 0 | 4 |
| 13 | 235 | 37 | 88 | 3 | 1 | 0 | 0 | 1 | 16 |
| 28 | 225 | 28 | 69 | 1 | 1 | 0 | 0 | 2 | 2 |
| 5 | 118 | 37 | 83 | 1 | 0 | 0 | 0 | 0 | 8 |
| 26 | 118 | 37 | 83 | 1 | 0 | 0 | 0 | 0 | 4 |
| 26 | 330 | 28 | 84 | 2 | 0 | 0 | 0 | 0 | 8 |
| 18 | 179 | 30 | 56 | 3 | 0 | 0 | 0 | 0 | 8 |
| 1 | 330 | 28 | 84 | 2 | 0 | 0 | 0 | 0 | 8 |
| 1 | 330 | 28 | 84 | 2 | 0 | 0 | 0 | 0 | 8 |
| 18 | 228 | 58 | 65 | 1 | 2 | 0 | 0 | 1 | 8 |
| 23 | 248 | 47 | 86 | 1 | 2 | 0 | 0 | 1 | 1 |
| 11 | 268 | 33 | 79 | 2 | 0 | 0 | 0 | 0 | 8 |
| 23 | 179 | 30 | 56 | 3 | 0 | 0 | 0 | 0 | 1 |
| 25 | 248 | 47 | 86 | 1 | 2 | 0 | 0 | 1 | 2 |
| 23 | 235 | 37 | 88 | 3 | 1 | 0 | 0 | 1 | 1 |

**Findings:**

1. In this cluster, there is no social drinker and no social smoker.
2. This is the only cluster where no pet no son is seen.

**Cluster 6:**

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

**Findings:**

1. Only cluster which has grater then 4 pets.

**Cluster 7:**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Reason for absence | average distance | Transportation expense | Age | weight | Education | Son | Social drinker | Social smoker | Pet | Absenteeism time in hours |
| 5 | 20 | 235 | 43 | 106 | 1 | 1 | 1 | 0 | 0 | 8 |
| 36 | 13 | 118 | 50 | 98 | 1 | 1 | 1 | 0 | 0 | 2 |
| 3 | 51 | 179 | 38 | 89 | 1 | 0 | 1 | 0 | 0 | 3 |
| 24 | 25 | 246 | 41 | 67 | 1 | 0 | 1 | 0 | 0 | 24 |
| 3 | 51 | 179 | 38 | 89 | 1 | 0 | 1 | 0 | 0 | 24 |
| 36 | 13 | 118 | 50 | 98 | 1 | 1 | 1 | 0 | 0 | 1 |
| 11 | 36 | 289 | 33 | 90 | 1 | 2 | 1 | 0 | 1 | 16 |
| 11 | 36 | 289 | 33 | 90 | 1 | 2 | 1 | 0 | 1 | 8 |
| 11 | 36 | 289 | 33 | 90 | 1 | 2 | 1 | 0 | 1 | 24 |
| 36 | 13 | 118 | 50 | 98 | 1 | 1 | 1 | 0 | 0 | 24 |
| 36 | 13 | 118 | 50 | 98 | 1 | 1 | 1 | 0 | 0 | 8 |
| 36 | 13 | 118 | 50 | 98 | 1 | 1 | 1 | 0 | 0 | 1 |
| 36 | 13 | 118 | 50 | 98 | 1 | 1 | 1 | 0 | 0 | 80 |
| 36 | 13 | 118 | 50 | 98 | 1 | 1 | 1 | 0 | 0 | 8 |
| 36 | 13 | 118 | 50 | 98 | 1 | 1 | 1 | 0 | 0 | 3 |
| 36 | 13 | 118 | 50 | 98 | 1 | 1 | 1 | 0 | 0 | 1 |
| 5 | 20 | 235 | 43 | 106 | 1 | 1 | 1 | 0 | 0 | 8 |
| 36 | 13 | 118 | 50 | 98 | 1 | 1 | 1 | 0 | 0 | 1 |
| 5 | 20 | 235 | 43 | 106 | 1 | 1 | 1 | 0 | 0 | 2 |
| 5 | 20 | 235 | 43 | 106 | 1 | 1 | 1 | 0 | 0 | 2 |
| 36 | 13 | 118 | 50 | 98 | 1 | 1 | 1 | 0 | 0 | 1 |
| 36 | 13 | 118 | 50 | 98 | 1 | 1 | 1 | 0 | 0 | 1 |
| 36 | 13 | 118 | 50 | 98 | 1 | 1 | 1 | 0 | 0 | 1 |
| 5 | 20 | 235 | 43 | 106 | 1 | 1 | 1 | 0 | 0 | 8 |
| 36 | 13 | 118 | 50 | 98 | 1 | 1 | 1 | 0 | 0 | 1 |
| 5 | 20 | 235 | 43 | 106 | 1 | 1 | 1 | 0 | 0 | 8 |
| 36 | 13 | 118 | 50 | 98 | 1 | 1 | 1 | 0 | 0 | 2 |
| 36 | 13 | 118 | 50 | 98 | 1 | 1 | 1 | 0 | 0 | 3 |
| 36 | 13 | 118 | 50 | 98 | 1 | 1 | 1 | 0 | 0 | 8 |
| 36 | 13 | 118 | 50 | 98 | 1 | 1 | 1 | 0 | 0 | 1 |
| 36 | 13 | 118 | 50 | 98 | 1 | 1 | 1 | 0 | 0 | 120 |
| 5 | 20 | 235 | 43 | 106 | 1 | 1 | 1 | 0 | 0 | 16 |
| 5 | 20 | 235 | 43 | 106 | 1 | 1 | 1 | 0 | 0 | 8 |
| 36 | 13 | 118 | 50 | 98 | 1 | 1 | 1 | 0 | 0 | 2 |
| 36 | 13 | 118 | 50 | 98 | 1 | 1 | 1 | 0 | 0 | 1 |
| 5 | 20 | 235 | 43 | 106 | 1 | 1 | 1 | 0 | 0 | 8 |
| 5 | 20 | 235 | 43 | 106 | 1 | 1 | 1 | 0 | 0 | 8 |
| 5 | 20 | 235 | 43 | 106 | 1 | 1 | 1 | 0 | 0 | 8 |
| 29 | 15 | 225 | 41 | 94 | 4 | 2 | 1 | 0 | 2 | 2 |
| 36 | 13 | 118 | 50 | 98 | 1 | 1 | 1 | 0 | 0 | 3 |
| 36 | 13 | 118 | 50 | 98 | 1 | 1 | 1 | 0 | 0 | 2 |
| 29 | 15 | 225 | 41 | 94 | 4 | 2 | 1 | 0 | 2 | 3 |
| 5 | 20 | 235 | 43 | 106 | 1 | 1 | 1 | 0 | 0 | 8 |
| 29 | 15 | 225 | 41 | 94 | 4 | 2 | 1 | 0 | 2 | 8 |
| 29 | 15 | 225 | 41 | 94 | 4 | 2 | 1 | 0 | 2 | 8 |
| 36 | 13 | 118 | 50 | 98 | 1 | 1 | 1 | 0 | 0 | 2 |
| 36 | 13 | 118 | 50 | 98 | 1 | 1 | 1 | 0 | 0 | 3 |
| 36 | 13 | 118 | 50 | 98 | 1 | 1 | 1 | 0 | 0 | 24 |
| 36 | 13 | 118 | 50 | 98 | 1 | 1 | 1 | 0 | 0 | 3 |
| 5 | 20 | 235 | 43 | 106 | 1 | 1 | 1 | 0 | 0 | 4 |
| 4 | 14 | 118 | 40 | 98 | 1 | 1 | 1 | 0 | 8 | 0 |

**Findings:**

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