|  |  |  |
| --- | --- | --- |
| LoanDefault | No | Yes |
| 1 | **100.0** | **0.0** |
| 2 | **99.0** | **1.0** |
| 3 | 79.1 | 20.9 |
| 4 | **99.0** | **1.0** |
| 5 | **0.0** | **100.0** |
| All | 76.6 | 23.4 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Age\_Recoded | 18-31 | >31-47 | >47-62 | >62 |
| 1 | **45.0** | **40.8** | 12.7 | 1.5 |
| 2 | 7.0 | 28.8 | 31.5 | 32.7 |
| 3 | 2.9 | 16.4 | 50.4 | 30.3 |
| 4 | 0.7 | 11.9 | 31.1 | 56.3 |
| 5 | **57.6** | 29.0 | 10.1 | 3.3 |
| All | 25.1 | 24.8 | 23.7 | 26.4 |

|  |  |
| --- | --- |
|  | Age |
| 1 | 34.6 |
| 2 | 53.7 |
| 3 | 56.4 |
| 4 | 62.6 |
| 5 | 32.4 |

In [55]:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Region | 1 | 2 | 3 | 4 | 5 |
| 1 | 21.6 | 23.5 | 22.7 | 20.4 | 11.8 |
| 2 | 0.6 | 3.9 | 13.8 | 28.6 | **53.1** |
| 3 | 16.2 | 17.0 | 24.8 | 20.1 | 21.9 |
| 4 | **36.4** | 28.7 | 21.8 | 9.8 | 3.4 |
| 5 | 19.6 | 22.0 | 19.4 | 20.3 | 18.7 |
| All | 20.2 | 19.9 | 20.1 | 19.3 | 20.5 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| TownSize | 1.0 | 2.0 | 3.0 | 4.0 | 5.0 |
| 1 | 30.4 | 25.4 | 21.7 | 16.1 | 6.4 |
| 2 | 0.4 | 6.2 | 18.7 | **31.3** | **43.4** |
| 3 | 29.8 | 24.8 | 19.6 | 14.6 | 11.2 |
| 4 | **51.2** | 28.4 | 13.3 | 6.3 | 0.9 |
| 5 | 27.2 | 20.0 | 18.8 | 18.4 | 15.4 |
| All | 28.8 | 21.0 | 18.1 | 17.1 | 15.0 |

|  |  |
| --- | --- |
|  | TownSize |
| 1 | 2.4 |
| 2 | 4.1 |
| 3 | 2.5 |
| 4 | 1.8 |
| 5 | 2.7 |

Out[58]:

|  |  |  |  |
| --- | --- | --- | --- |
| Gender | Female | Male | Unknown |
| 1 | 49.5 | 49.9 | 0.6 |
| 2 | 47.9 | 51.0 | 1.1 |
| 3 | **43.3** | **56.4** | 0.3 |
| 4 | **53.4** | **46.2** | 0.4 |
| 5 | 50.2 | 49.0 | 0.8 |
| All | 49.9 | 49.5 | 0.7 |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| JobCategory | Agriculture | Crafts | Labor | Professional | Sales | Service | Unknown | All |
| 1 | 21.2 | 25.0 | 19.4 | 25.2 | 27.0 | 20.5 | 20.0 | 24.2 |
| 2 | 21.2 | 19.0 | 22.0 | 20.0 | 20.3 | 25.3 | 0.0 | 20.9 |
| 3 | **13.2** | **12.6** | **12.4** | 6.2 | 3.2 | 11.9 | 6.7 | 7.7 |
| 4 | 30.2 | 27.0 | **31.9** | 25.2 | 23.3 | 24.0 | 53.3 | 25.8 |
| 5 | 14.2 | 16.4 | 14.3 | 23.4 | 26.1 | 18.2 | 20.0 | 21.4 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| JobCategory | Agriculture | Crafts | Labor | Professional | Sales | Service | Unknown |
| 1 | 3.7 | 9.3 | 11.0 | 28.7 | 36.5 | 10.5 | 0.2 |
| 2 | 4.3 | 8.2 | 14.4 | 26.4 | 31.7 | 15.0 | 0.0 |
| 3 | **7.3** | **14.9** | **22.2** | 22.2 | 13.8 | 19.3 | 0.3 |
| 4 | 5.0 | 9.5 | **17.0** | 27.0 | 29.5 | 11.5 | 0.6 |
| 5 | 2.8 | 6.9 | 9.2 | 30.2 | **40.0** | 10.6 | 0.3 |
| All | 4.2 | 9.0 | 13.7 | 27.6 | 32.7 | 12.4 | 0.3 |

In [60]:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| HHIncome\_Recoded | <$24K | $24K-38K | $38K-67K | >$67K |
| 1 | **29.0** | **33.2** | 25.8 | **12.1** |
| 2 | 19.1 | 24.2 | **30.9** | 25.8 |
| 3 | 0.3 | 1.0 | 7.6 | **91.1** |
| 4 | **32.5** | 18.3 | 25.4 | 23.8 |
| 5 | **33.5** | 27.8 | 24.4 | 14.2 |
| All | 23.8 | 26.6 | 24.5 | 25.1 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| HHIncome\_Recoded | <$24K | $24K-38K | $38K-67K | >$67K | All |
| 1 | 26.4 | 33.7 | 24.9 | 11.9 | 24.2 |
| 2 | 15.0 | 21.2 | 25.8 | 22.1 | 20.9 |
| 3 | 0.1 | 0.3 | 2.3 | 28.5 | 7.7 |
| 4 | 31.6 | 19.8 | 26.2 | 25.1 | 25.8 |
| 5 | 26.9 | 24.9 | 20.8 | 12.4 | 21.4 |

|  |  |
| --- | --- |
|  | HHIncome |
| 1 | 39813.4 |
| 2 | 51719.2 |
| 3 | **174052.2** |
| 4 | 46660.0 |
| 5 | 41698.5 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| EducationYears\_Recoded | <12 | 12-14 | 14-17 | >17 |
| 1 | 24.4 | 23.5 | 31.3 | 20.7 |
| 2 | 28.0 | 21.9 | 30.5 | 19.7 |
| 3 | 14.6 | 16.7 | **33.9** | **34.7** |
| 4 | **43.4** | 19.9 | 23.7 | 13.0 |
| 5 | 19.5 | 24.8 | **32.0** | **23.7** |
| All | 29.5 | 22.0 | 28.3 | 20.2 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| EducationYears\_Recoded | <12 | 12-14 | 14-17 | >17 | All |
| 1 | 20.9 | 25.9 | 25.7 | 24.8 | 24.2 |
| 2 | 20.7 | 20.8 | 21.6 | 20.4 | 20.9 |
| 3 | 4.0 | 5.8 | 8.8 | 13.2 | 7.7 |
| 4 | 39.6 | 23.4 | 20.7 | 16.6 | 25.8 |
| 5 | 14.7 | 24.1 | 23.2 | 25.0 | 21.4 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| DebtToIncomeRatio\_Recoded | <5.1 | 5.1-8.8 | 8.8-13.6 | >13.6 |
| 1 | **36.8** | 28.7 | 20.9 | 13.5 |
| 2 | 27.9 | 28.2 | 25.6 | 18.3 |
| 3 | 28.2 | 21.7 | 25.1 | 25.1 |
| 4 | 21.0 | 26.7 | 26.1 | 26.2 |
| 5 | 12.5 | 18.3 | 27.2 | **42.0** |
| All | 24.8 | 24.9 | 25.0 | 25.3 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| DebtToIncomeRatio\_Recoded | <5.1 | 5.1-8.8 | 8.8-13.6 | >13.6 | All |
| 1 | 35.7 | 27.5 | 20.3 | 13.2 | 24.2 |
| 2 | 23.3 | 23.3 | 21.5 | 15.5 | 20.9 |
| 3 | 8.6 | 6.6 | 7.7 | 7.7 | 7.7 |
| 4 | 21.7 | 27.3 | 27.1 | 27.3 | 25.8 |
| 5 | 10.7 | 15.4 | 23.3 | 36.2 | 21.4 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| CardSpendMonth\_Recoded | <1800 | 1800-2800 | 2800-4200 | >4200 |
| 1 | 23.8 | 29.4 | 26.7 | 20.1 |
| 2 | 25.3 | 25.1 | 27.3 | 22.3 |
| 3 | 1.0 | 5.0 | 12.3 | **81.7** |
| 4 | **29.3** | **30.4** | 23.1 | **17.2** |
| 5 | 25.3 | 28.7 | 24.7 | 21.3 |
| All | 24.1 | 26.7 | 24.4 | 24.8 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| PhoneCoTenure\_Recoded | <18 | 18-38 | 38-59 | >59 |
| 1 | **55.7** | 34.0 | 9.7 | 0.7 |
| 2 | 6.4 | 23.3 | **35.8** | **34.5** |
| 3 | 5.2 | 17.8 | 29.5 | **47.5** |
| 4 | 1.5 | 13.6 | 35.6 | **49.3** |
| 5 | **49.0** | 29.3 | 16.4 | 5.3 |
| All | 26.1 | 24.9 | 24.3 | 24.8 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| PhoneCoTenure\_Recoded | <18 | 18-38 | 38-59 | >59 | All |
| 1 | 51.7 | 34.0 | 9.4 | 0.6 | 24.2 |
| 2 | 5.1 | 20.1 | 30.3 | 29.0 | 20.9 |
| 3 | 1.5 | 5.6 | 9.1 | 14.6 | 7.7 |
| 4 | 1.5 | 14.5 | 37.0 | 51.1 | 25.8 |
| 5 | 40.1 | 25.8 | 14.1 | 4.6 | 21.4 |

|  |  |  |
| --- | --- | --- |
| OwnsMobileDevice | No | Yes |
| 1 | 44.3 | **55.7** |
| 2 | 57.4 | 42.6 |
| 3 | 50.4 | 49.6 |
| 4 | **64.5** | 35.5 |
| 5 | 41.3 | **58.7** |
| All | 52.1 | 47.9 |

Profiling Variables

|  |  |  |  |
| --- | --- | --- | --- |
| OwnsMobileDevice | No | Yes | All |
| 1 | 20.6 | 28.2 | 24.2 |
| 2 | 23.1 | 18.6 | 20.9 |
| 3 | 7.4 | 7.9 | 7.7 |
| 4 | 32.0 | 19.1 | 25.8 |
| 5 | 16.9 | 26.2 | 21.4 |

|  |  |  |  |
| --- | --- | --- | --- |
| OwnsPC | No | Yes | All |
| 1 | 21.2 | 26.0 | 24.2 |
| 2 | 21.4 | 20.7 | 20.9 |
| 3 | 6.2 | 8.5 | 7.7 |
| 4 | 33.3 | 21.5 | 25.8 |
| 5 | 18.0 | 23.3 | 21.4 |

|  |  |  |
| --- | --- | --- |
| OwnsPC | No | Yes |
| 1 | 32.1 | 67.9 |
| 2 | 37.4 | 62.6 |
| 3 | 29.5 | **70.5** |
| 4 | **47.4** | 52.6 |
| 5 | 30.9 | **69.1** |
| All | 36.7 | 63.3 |

|  |  |  |
| --- | --- | --- |
| OwnsGameSystem | No | Yes |
| 1 | 43.8 | **56.2** |
| 2 | 56.9 | 43.1 |
| 3 | 51.4 | 48.6 |
| 4 | **66.9** | 33.1 |
| 5 | 41.1 | **58.9** |
| All | 52.5 | 47.5 |

|  |  |  |  |
| --- | --- | --- | --- |
| OwnsGameSystem | No | Yes | All |
| 1 | 20.2 | 28.7 | 24.2 |
| 2 | 22.7 | 19.0 | 20.9 |
| 3 | 7.5 | 7.8 | 7.7 |
| 4 | 32.9 | 18.0 | 25.8 |
| 5 | 16.7 | 26.5 | 21.4 |

|  |  |  |  |
| --- | --- | --- | --- |
| OwnsFax | No | Yes | All |
| 1 | 24.3 | 23.9 | 24.2 |
| 2 | 21.2 | 19.8 | 20.9 |
| 3 | 6.4 | 13.5 | 7.7 |
| 4 | 27.2 | 19.4 | 25.8 |
| 5 | 20.9 | 23.4 | 21.4 |

|  |  |  |
| --- | --- | --- |
| OwnsFax | No | Yes |
| 1 | 82.3 | 17.7 |
| 2 | 83.1 | 16.9 |
| 3 | 68.4 | **31.6** |
| 4 | 86.6 | 13.4 |
| 5 | 80.4 | 19.6 |
| All | 82.1 | 17.9 |

|  |  |  |  |
| --- | --- | --- | --- |
| NewsSubscriber | No | Yes | All |
| 1 | 35.7 | 11.4 | 24.2 |
| 2 | 15.8 | 26.7 | 20.9 |
| 3 | 5.0 | 10.7 | 7.7 |
| 4 | 14.5 | 38.4 | 25.8 |
| 5 | 29.0 | 12.9 | 21.4 |

|  |  |  |
| --- | --- | --- |
| NewsSubscriber | No | Yes |
| 1 | **77.8** | 22.2 |
| 2 | 39.8 | **60.2** |
| 3 | 34.2 | **65.8** |
| 4 | 29.7 | **70.3** |
| 5 | **71.5** | 28.5 |
| All | 52.7 | 47.3 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| TVWatchingHours\_Recoded | <17 | 17-20 | 20-23 | >23 | All |
| 1 | 23.3 | 26.8 | 23.7 | 22.9 | 24.2 |
| 2 | 20.8 | 22.1 | 20.4 | 20.2 | 20.9 |
| 3 | 7.8 | 7.0 | 7.8 | 8.1 | 7.7 |
| 4 | 26.6 | 23.1 | 27.1 | 26.7 | 25.8 |
| 5 | 21.5 | 20.9 | 21.0 | 22.0 | 21.4 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| TVWatchingHours\_Recoded | <17 | 17-20 | 20-23 | >23 |
| 1 | 29.6 | 29.0 | 21.7 | 19.7 |
| 2 | 30.6 | 27.6 | 21.7 | 20.2 |
| 3 | 31.1 | 24.0 | 22.7 | 22.2 |
| 4 | 31.6 | 23.5 | 23.3 | 21.6 |
| 5 | 30.9 | 25.7 | 21.9 | 21.5 |
| All | 30.7 | 26.2 | 22.2 | 20.9 |

|  |  |  |  |
| --- | --- | --- | --- |
| Internet\_Recoded | No | Yes | All |
| 1 | 22.5 | 26.0 | 24.2 |
| 2 | 21.9 | 20.0 | 20.9 |
| 3 | 6.2 | 9.1 | 7.7 |
| 4 | 30.8 | 20.9 | 25.8 |
| 5 | 18.7 | 24.1 | 21.4 |

|  |  |  |
| --- | --- | --- |
| Internet\_Recoded | No | Yes |
| 1 | 46.3 | 53.7 |
| 2 | 52.2 | 47.8 |
| 3 | 40.5 | **59.5** |
| 4 | **59.6** | 40.4 |
| 5 | 43.6 | **56.4** |
| All | 50.0 | 50.0 |

|  |  |  |
| --- | --- | --- |
| VM | No | Yes |
| 1 | 69.3 | 30.7 |
| 2 | 70.8 | 29.2 |
| 3 | 59.0 | **41.0** |
| 4 | **76.1** | 23.9 |
| 5 | 65.3 | 34.7 |
| All | 69.7 | 30.3 |

|  |  |  |  |
| --- | --- | --- | --- |
| VM | No | Yes | All |
| 1 | 24.1 | 24.6 | 24.2 |
| 2 | 21.3 | 20.2 | 20.9 |
| 3 | 6.5 | 10.4 | 7.7 |
| 4 | 28.2 | 20.4 | 25.8 |
| 5 | 20.0 | 24.5 | 21.4 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| DataPerMonth\_Recoded | 0 | 7-26 | 26-35 | 35-46 | >46 | All |
| 1 | 23.5 | 45.4 | 24.5 | 20.2 | 14.6 | 24.2 |
| 2 | 21.7 | 10.0 | 17.5 | 20.9 | 26.8 | 20.9 |
| 3 | 6.0 | 4.4 | 10.8 | 15.3 | 18.5 | 7.7 |
| 4 | 28.2 | 6.8 | 20.1 | 25.5 | 25.0 | 25.8 |
| 5 | 20.6 | 33.3 | 27.1 | 18.1 | 15.2 | 21.4 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| DataPerMonth\_Recoded | 0 | 7-26 | 26-35 | 35-46 | >46 |
| 1 | 70.9 | 12.7 | 6.9 | 5.5 | 4.0 |
| 2 | 75.9 | 3.2 | 5.7 | 6.5 | 8.6 |
| 3 | 57.2 | 3.9 | 9.7 | 13.1 | **16.2** |
| 4 | **79.9** | 1.8 | 5.3 | 6.4 | 6.5 |
| 5 | 70.4 | 10.6 | 8.7 | 5.5 | 4.8 |
| All | 73.1 | 6.9 | 6.5 | 6.8 | 6.7 |

|  |  |  |
| --- | --- | --- |
| WirelessData | No | Yes |
| 1 | 70.9 | 29.1 |
| 2 | 75.9 | 24.1 |
| 3 | 57.2 | **42.8** |
| 4 | **79.9** | 20.1 |
| 5 | 70.4 | 29.6 |
| All | 73.1 | 26.9 |

|  |  |  |  |
| --- | --- | --- | --- |
| WirelessData | No | Yes | All |
| 1 | 23.5 | 26.3 | 24.2 |
| 2 | 21.7 | 18.8 | 20.9 |
| 3 | 6.0 | 12.2 | 7.7 |
| 4 | 28.2 | 19.3 | 25.8 |
| 5 | 20.6 | 23.5 | 21.4 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| VoicePerMonth\_Recoded | <5 | 5-10 | 10-17 | >17 |
| 1 | **41.0** | **42.9** | 14.7 | 1.5 |
| 2 | 6.1 | **28.8** | **32.5** | 32.6 |
| 3 | 5.2 | 23.2 | 26.6 | **44.9** |
| 4 | 3.6 | 21.0 | 30.5 | **44.9** |
| 5 | **34.3** | **39.1** | 18.9 | 7.8 |
| All | 24.3 | 19.8 | 23.9 | 32.0 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| VoicePerMonth\_Recoded | <5 | 5-10 | 10-17 | >17 | All |
| 1 | 50.1 | 32.5 | 14.7 | 1.5 | 24.2 |
| 2 | 6.5 | 18.9 | 28.0 | 28.6 | 21.0 |
| 3 | 2.0 | 5.6 | 8.4 | 14.4 | 7.7 |
| 4 | 4.6 | 17.0 | 32.4 | 48.6 | 25.8 |
| 5 | 36.8 | 26.0 | 16.5 | 7.0 | 21.3 |

|  |  |  |  |
| --- | --- | --- | --- |
| CallingCard | No | Yes | All |
| 1 | 40.2 | 17.9 | 24.2 |
| 2 | 14.3 | 23.6 | 20.9 |
| 3 | 2.9 | 9.6 | 7.7 |
| 4 | 11.2 | 31.6 | 25.8 |
| 5 | 31.4 | 17.4 | 21.4 |

|  |  |  |
| --- | --- | --- |
| CallingCard | No | Yes |
| 1 | **47.1** | 52.9 |
| 2 | 19.4 | **80.6** |
| 3 | 10.7 | **89.3** |
| 4 | 12.3 | **87.7** |
| 5 | **41.8** | 58.2 |
| All | 28.4 | 71.6 |

|  |  |  |  |
| --- | --- | --- | --- |
| ThreeWayCalling | No | Yes | All |
| 1 | 24.7 | 23.7 | 24.2 |
| 2 | 20.8 | 21.1 | 20.9 |
| 3 | 5.2 | 10.4 | 7.7 |
| 4 | 27.2 | 24.3 | 25.8 |
| 5 | 22.1 | 20.5 | 21.4 |

|  |  |  |
| --- | --- | --- |
| ThreeWayCalling | No | Yes |
| 1 | 53.2 | 46.8 |
| 2 | 51.9 | 48.1 |
| 3 | 35.2 | **64.8** |
| 4 | 55.0 | 45.0 |
| 5 | 54.1 | 45.9 |
| All | 52.2 | 47.8 |

|  |  |  |  |
| --- | --- | --- | --- |
| Multiline | No | Yes | All |
| 1 | 32.8 | 15.2 | 24.2 |
| 2 | 17.1 | 24.9 | 20.9 |
| 3 | 4.3 | 11.2 | 7.7 |
| 4 | 19.5 | 32.4 | 25.8 |
| 5 | 26.2 | 16.3 | 21.4 |

|  |  |  |
| --- | --- | --- |
| Multiline | No | Yes |
| 1 | **69.3** | 30.7 |
| 2 | 41.8 | 58.2 |
| 3 | 28.7 | **71.3** |
| 4 | 38.7 | **61.3** |
| 5 | **62.8** | 37.2 |
| All | 51.2 | 48.8 |