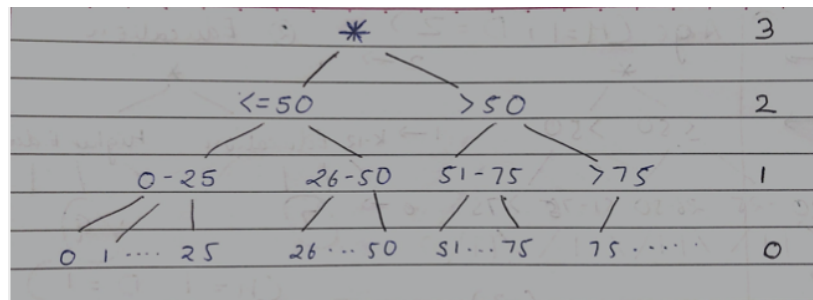


CS528 Data Privacy and Security

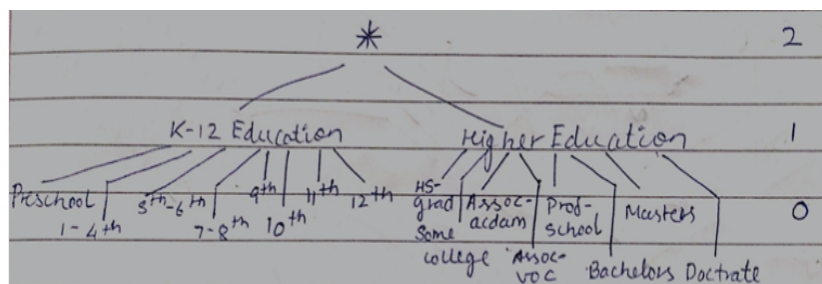
Homework 1

- Task 1(a) Define a reasonable hierarchy for each of the 4 attributes

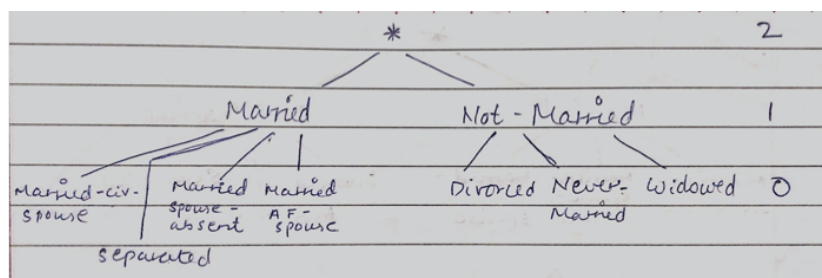
i. Age



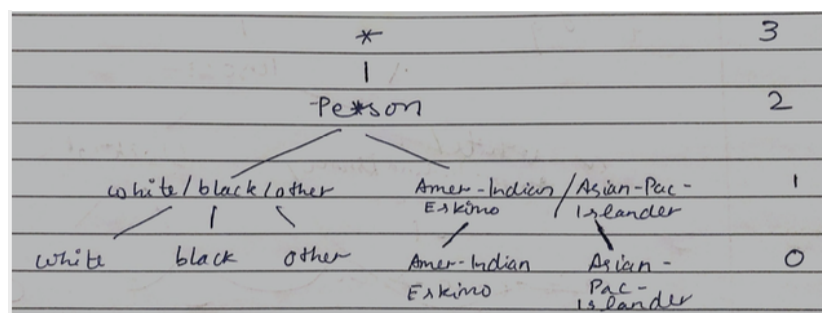
ii. Education



iii. Marital status



iv. Race



- Task 1(c)

```
PrajaktaRajhans_hw1 — -zsh — 100x24
prajaktarajhans@Prajaktas-MacBook-Air PrajaktaRajhans_hw1 % javac hw1_1_anonymity.java
prajaktarajhans@Prajaktas-MacBook-Air PrajaktaRajhans_hw1 % java hw1_1_anonymity
Enter full path for the dataset file
/Users/prajaktarajhans/CS528-DataprivacyNsecurity/PrajaktaRajhans_hw1/adult.data.txt
Enter value of k1
10
Enter value of k2
5
Distortion = 0.33333334
Precision 0.66667414
prajaktarajhans@Prajaktas-MacBook-Air PrajaktaRajhans_hw1 %
```

- Task 2 (c)

```
PrajaktaRajhans_hw1 — -zsh — 100x24
prajaktarajhans@Prajaktas-MacBook-Air PrajaktaRajhans_hw1 % javac hw1_2_entropy.java
prajaktarajhans@Prajaktas-MacBook-Air PrajaktaRajhans_hw1 % java hw1_2_entropy
Enter full path for the dataset file
/Users/prajaktarajhans/CS528-DataprivacyNsecurity/PrajaktaRajhans_hw1/adult.data.txt
Enter value of k
5
Enter value of l
3
Distortion = 0.41666667
Precision 0.58334875
prajaktarajhans@Prajaktas-MacBook-Air PrajaktaRajhans_hw1 %
```

- Task 2(d)

- c=0.5

```
PrajaktaRajhans_hw1 — -zsh — 100x24
prajaktarajhans@Prajaktas-MacBook-Air PrajaktaRajhans_hw1 % javac hw1_2_recursive.java
prajaktarajhans@Prajaktas-MacBook-Air PrajaktaRajhans_hw1 % java hw1_2_recursive
Enter full path for the dataset file
/Users/prajaktarajhans/CS528-DataprivacyNsecurity/PrajaktaRajhans_hw1/adult.data.txt
Enter value of k
5
Enter value of l
3
Enter value of c
0.5
Distortion = 0.58333334
Precision = 0.41667432
prajaktarajhans@Prajaktas-MacBook-Air PrajaktaRajhans_hw1 %
```

- $c=1$

```
PrajaktaRajhans_hw1 — zsh — 100x24
prajaktarajhans@Prajaktas-MacBook-Air PrajaktaRajhans_hw1 % java hw1_2_recursive
Enter full path for the dataset file
/Users/prajaktarajhans/CS528-DataprivacyNsecurity/PrajaktaRajhans_hw1/adult.data.txt
Enter value of k
5
Enter value of l
3
Enter value of c
1
Distortion = 0.4166667
Precision = 0.58334875
prajaktarajhans@Prajaktas-MacBook-Air PrajaktaRajhans_hw1 %
```

- $c=2$

```
PrajaktaRajhans_hw1 — zsh — 100x24
prajaktarajhans@Prajaktas-MacBook-Air PrajaktaRajhans_hw1 % java hw1_2_recursive
Enter full path for the dataset file
/Users/prajaktarajhans/CS528-DataprivacyNsecurity/PrajaktaRajhans_hw1/adult.data.txt
Enter value of k
5
Enter value of l
3
Enter value of c
2
Distortion = 0.45833334
Precision = 0.5416744
prajaktarajhans@Prajaktas-MacBook-Air PrajaktaRajhans_hw1 %
```