**Census**

**First task:**

Based on the given data, we have reached a relation between the age and the income by using (income\_c) field in the datasets as it was more specific and had really accurate records and dividing dataset into 4 parts depending on age (under 25, 25-50, 50-75, above 75) then calculating the average of income in each part of them to find that:

Avg. under (25) =9676.8132

Avg. (25-50) =10335.9285

Avg. (50-75) =11184.8659

Avg. Above (75) =10720.9349

**Conclusion:**

The income tends to increase with the age till a point where it starts to dec. again taking inverted u-shaped pattern

**Sec. task:**

Basically, to know if we have achieved gender equality, we have made three relations as following:

**The First relation:**

We have found the average education level of both genders to find that:

Avg. Edu. Level of male =10.10289

Avg. Edu. Level of female= 10.03574

So basically, we find out that both genders have achieved gender equality in this field reaching an approximate average of 10th level

**The sec. relation:**

We have calculated the average income of both genders to find that:

Avg. male income= 10585.41

Avg. female income= 9957.78

So, here we find that average male and female income are slightly close from each as there is no huge difference between average of both thus gender equality also achieved in this field

**The third relation:**

We have calculated the percentage genders in each working class to find that

|  |  |  |
| --- | --- | --- |
| **section** | **male** | **female** |
| **Federal-gov** | **1.9808 %** | **0.96741500 %** |
| **Local-gov** | **3.863517 %** | **2.5644 %** |
| **Never worked** | **0.015355** | **0.00614 %** |
| **private** | **45.8%** | **23.8%** |
| **State-gov** | **2.4854%** | **1.5017%** |

Close percentage in most of the fields except private working class

**Conclusion:**

gender equality has been achieved in most of the fields

**third. task:**

In order to find other attributes that can be income predictor we have tried to find a relation between some attributes and income

**The First relation: (income &race)**

we have found out that the race can’t be an income predictor as there is not a noticeable difference between Average Income of people of different race.

|  |  |
| --- | --- |
| **Race** | **Avg. income** |
| Amer-Indian-Eskimo | 10161.10 |
| White | 10372.58 |
| Amer-Indian-Eskimo | 10161.10 |
| Black | 10096.58 |

**The Sec. relation: (income &occupation)**

we have found it that occupation is considered to be an income predictor as each occupation has its own average income different from other occupations

|  |  |
| --- | --- |
| **occupation** | **income** |
| Prof-specialty | 11457.312 |
| Transport-moving | 10032.604 |
| Armed-Forces | 7699.333 |

**The third relation: (income &native country)**

we have found it that also the native country is an income predictor as we can simply notice the huge difference between incomes of people of different native countries

|  |  |
| --- | --- |
| **country** | **income** |
| Japan | 15606.500 |
| United states | 10337.559 |
| Canada | 8906.702 |

**Conclusion**

Occupation &native country are income predictors