ASSIGNMENT 8

Q. Write a program that scans a file line by line, splits each input line into fields later, compares input line/fields to pattern and performs action(s) on matched lines

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1.Read a file line by line

2.Split each line into fields (words)

3.Check if the line or specific fields match a pattern

4.Perform actions on matched lines

Data.txt file:

```
Kush Agarwal Male 21
Mruganksha Kudake Female 19
Arshiya kazi Female 20
Payal Kotkar Female 19
Akshad Lohiya Male 22
Keertivarma V Male 21
Bhavesh Kathoke Male 22
siddhi landage Female 19
Ramanuj Ladda Male 22
Sayalee Khedekar Female 18
Sarthika Kashmire Female 20
Arya Kulkarni Male 21
Vedant Katruwar Male 23
Atharv Madage Male 19
Sarang Kulkarni Male 22
Rajwardhan Kharade Male 20
Indranil Kavade Male 18
Swapna Khare Female 20
Pavitra lohar Female 19
```

CODE : ass8_fixed.sh file:

```
#!/bin/bash

male_count=0

female_count=0
```

```
age_20_or_less_count=0

echo "----- Full List of People -----"
cat data.txt

echo ""
echo "----- List of Males -----"
while read -r name surname gender age; do
    full_name="$name $surname"
    age=$(echo "$age" | tr -d '\r')

    if [[ "$gender" == "Male" ]]; then
        echo "$full_name, Age: $age"
        ((male_count++))
    fi
done < data.txt
echo "Total Males: $male_count"

echo ""
echo "----- List of Females -----"
while read -r name surname gender age; do
    full_name="$name $surname"
    age=$(echo "$age" | tr -d '\r')

    if [[ "$gender" == "Female" ]]; then
        echo "$full_name, Age: $age"
```

```
        ((female_count++))
    fi
done < data.txt
echo "Total Females: $female_count"


echo ""
echo "----- People Aged 20 or Less -----"
while read -r name surname gender age; do
    full_name="$name $surname"
    age=$(echo "$age" | tr -d '\r')

    if [[ "$age" =~ ^[0-9]+$ ]] && [[ "$age" -le 20 ]]; then
        echo "$full_name, Age: $age"
        ((age_20_or_less_count++))
    fi
done < data.txt
echo "Total People Aged 20 or Less: $age_20_or_less_count"
```

Code Logic/Structure:

The script processes a file (data.txt) containing names, genders, and ages, categorizing the data into different groups. It first initializes counters for males, females, and people aged 20 or less. Then, it reads the file line by line, extracting and filtering data based on gender and age conditions. The results are printed accordingly, and hidden characters are removed to avoid errors. Finally, the script displays the total count for each category.

Output:-

```
Asus@MrugankshaK MINGW64 ~
$ ./ass8_fixed.sh
----- Full List of People -----
Kush Agarwal Male 21
Mruganksha Kudake Female 19
Arshiya kazi Female 20
Payal Kotkar Female 19
Akshad Lohiya Male 22
Keertivarma V Male 21
Bhavesh Kathoke Male 22
siddhi landage Female 19
Ramanuj Ladda Male 22
Sayalee Khedekar Female 18
Sarthika Kashmire Female 20
Arya Kulkarni Male 21
Vedant Katruwar Male 23
Atharv Madage Male 19
Sarang Kulkarni Male 22
Rajwardhan Kharade Male 20
Indranil Kavade Male 18
Swapna Khare Female 20
Pavitra lohar Female 19

----- List of Males -----
Kush Agarwal, Age: 21
Akshad Lohiya, Age: 22
Keertivarma V, Age: 21
Bhavesh Kathoke, Age: 22
Ramanuj Ladda, Age: 22
Arya Kulkarni, Age: 21
Vedant Katruwar, Age: 23
Atharv Madage, Age: 19
Sarang Kulkarni, Age: 22
Rajwardhan Kharade, Age: 20
Indranil Kavade, Age: 18
Total Males: 11

----- List of Females -----
Mruganksha Kudake, Age: 19
Arshiya kazi, Age: 20
Payal Kotkar, Age: 19
siddhi landage, Age: 19
Sayalee Khedekar, Age: 18
Sarthika Kashmire, Age: 20
Swapna Khare, Age: 20
Pavitra lohar, Age: 19
Total Females: 8
```

```
----- People Aged 20 or Less -----
Mruganksha Kudake, Age: 19
Arshiya kazi, Age: 20
Payal Kotkar, Age: 19
siddhi landage, Age: 19
Atharv Madage, Age: 19
Rajwardhan Kharade, Age: 20
Indranil Kavade, Age: 18
Swapna Khare, Age: 20
Pavitra lohar, Age: 19
Total People Aged 20 or Less: 9
```

Conclusion:

This assignment helped in understanding file handling in Bash, string manipulation, and conditional filtering based on conditions. It also reinforced debugging skills, especially in fixing syntax errors related to arithmetic operations.