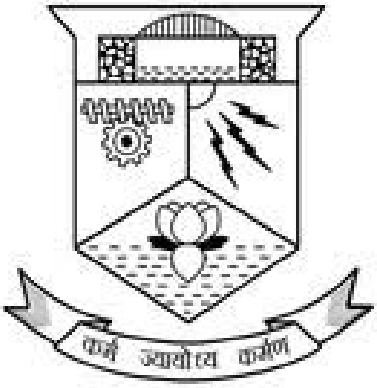
COLLEGE OF ENGINEERING TRIVANDRUM

THIRUVANANTHAPURAM-695016



DEPARTMENT OF
COMPUTER SCIENCE AND ENGINEERING

Fourth Semester
CSL204 : OPERATING SYSTEMS LAB

Name : ALEXEYO MATHEW ALEXANDER

KTU ID : TVE23CS025

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
2024 – 2025

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Certified that this a bonafide record of the work done by **ALEXEYO MATHEW ALEXANDER (TVE23CS025)** of **S4 CSE (Batch-1)** class in the **Operating Systems Lab** during the year 2024-2025.

External Examiner

Faculty in Charge

CONTENTS

Program

```
function display_menu(){
        echo "Select an option to display processor information"
        echo "1.Vendor(Manufacturer)ID"
        echo "2.Model name"
        echo "3.Processor generation"
        echo "4.Number of processor chips"
        echo "5.Number of processor cores"
        echo "6.Is your process hyperthreaded?"
        echo "7.Number of logical processors"
        echo "8.Core ID of each logical processor"
        echo "9.Speed of each logical processor"
        echo "10.Cache Size"
        echo "11.Exit"
        echo -n "Enter your choice:"
}
while true; do
        display_menu
        read choice
        case $choice in
                    1)
          echo -n "Vendor(Manufacturer)ID: "
          grep -m1 "vendor_id" /proc/cpuinfo |awk '{print $3}'
          ;;
        2)
          echo -n "Model Name: "
          grep -m1 "model name" /proc/cpuinfo |cut -d: -f2 |xargs
          ;;
        3)
          echo -n "Processor Generation(Family): "
          grep -m1 "cpu family" /proc/cpuinfo | awk '{print $4}'
          ;;
        4)
          echo -n "Number of Processor chips: "
          grep "physical id" /proc/cpuinfo | sort -u| wc -l
          ;;
        5)
          echo -n "Number of Processor cores: "
          grep "cpu cores" /proc/cpuinfo | uniq |awk '{print $4}'
          ;;
        6)
          echo "Is your process Hyperthreaded?"
          echo -n "Number of Siblings: "
          siblings= grep -m1 "siblings" /proc/cpuinfo | awk '{print $3}'
          echo -n "Number of Physical Cores: "
```

```
            cores= grep -m1 "cpu cores" /proc/cpuinfo | awk '{print $4}'
            if(("$siblings" -gt "$cores"))
            then
                    echo "The process is hyperthreaded."
            else
                    echo "The process is not hyperthreaded."
            fi
            ;;
          7)
            echo -n "Number of logical processors: "
            grep -c "processor" /proc/cpuinfo
            ;;
          8)
            echo -n "Core ID for each logical processor: "
            grep "processor\|core id" /proc/cpuinfo
            ;;
          9)
            echo -n "Speed of each logical processor(MHz): "
            grep "processor\|cpu MHz" /proc/cpuinfo
            ;;
          10)
            echo -n "Cache Size: "
            grep -m1 "cache size" /proc/cpuinfo |cut -d: -f2 |xargs
            ;;
          11)
            echo "Exiting..."
            exit 0
            ;;
          *)
            echo "Invalid choice.Please try again."
            ;;
    esac
    echo ""
done
```

Sample run of the program

Program

```
while true
do
        echo "1)Total memory"
        echo "2)Unused memory"
        echo "3)Available memory"
        echo "4)Cache memory"
        echo "5)Exiting"
        read -p "Enter choice:" ch
        case $ch in
                    1)total_memory=$(awk '/MemTotal/{print$2}' /proc/meminfo)
          if [[ $total_memory =~ ^[0-9]+$ ]]
          then
                     echo "Total memory: $((total_memory / 1024))MB"
          else
                     echo "Error"
          fi
          ;;
        2)unused_memory=$(awk '/MemFree/{print$2}' /proc/meminfo)
          if [[ $unused_memory =~ ^[0-9]+$ ]]
          then
                     echo "Unused memory: $((unused_memory / 1024))MB"
          else
                     echo "Error"
          fi
          ;;
        3)avail_memory=$(awk '/MemAvailable/{print$2}' /proc/meminfo)
          if [[ $avail_memory =~ ^[0-9]+$ ]] then
                     echo "Available memory: $((avail_memory / 1024))MB"
          else
                     echo "Error"
          fi
          ;;
        4)cache_memory=$(awk '/^Cached:/{print$2}' /proc/meminfo)
          if [[ $cache_memory =~ ^[0-9]+$ ]] then
                     echo "Cache memory: $((cache_memory / 1024))MB"
          else
                     echo "Error"
          fi
          ;;
        5)echo "Exiting"
          exit 1
          ;;
    esac
done
```

Sample run of the program