

```
#!/bin/bash
```

```
LOG_FILE="/var/log/heartbeat.log"
```

```
MAX_LOG_SIZE=1024
```

```
log_heartbeat() {
```

```
    TIMESTAMP=$(date '+%Y-%m-%d %H:%M:%S')
```

```
    MESSAGE="HEARTBEAT: System is alive - Timestamp: $TIMESTAMP"
```

```
    echo "$MESSAGE" | sudo tee -a "$LOG_FILE"
```

```
    logger "$MESSAGE"
```

```
}
```

```
check_system_health() {
```

```
    echo "System Health Report - $(date)" | sudo tee -a "$LOG_FILE"
```

```
    CPU_USAGE=$(top -bn1 | grep "Cpu(s)" | awk '{print $2 + $4}')
```

```
    echo "CPU Usage: $CPU_USAGE%" | sudo tee -a "$LOG_FILE"
```

```
    MEM_USAGE=$(free -m | awk '/Mem:/ {printf "%.2f%%", $3/$2*100}')
```

```
    echo "Memory Usage: $MEM_USAGE" | sudo tee -a "$LOG_FILE"
```

```
    DISK_USAGE=$(df -h / | awk 'NR==2 {print $5}')
```

```
    echo "Disk Usage: $DISK_USAGE" | sudo tee -a "$LOG_FILE"
```

```
}
```

```
rotate_log() {
```

```
    if [[ -f "$LOG_FILE" ]]; then
```

```
        LOG_SIZE=$(du -k "$LOG_FILE" | cut -f1)
```

```
        if (( LOG_SIZE > MAX_LOG_SIZE )); then
```

```
            mv "$LOG_FILE" "$LOG_FILE.bak"
```

```
    echo "$(date '+%Y-%m-%d %H:%M:%S') - Log rotated" | sudo tee "$LOG_FILE"

fi

fi

}

log_heartbeat

check_system_health

rotate_log
```

OUTPUT:

2025-03-25 11:35:15 - HEARTBEAT: System is alive - Timestamp: 2025-03-25 11:35:15

System Health Report - 2025-03-25 11:35:15

CPU Usage: 14.5%

Memory Usage: 43.21%

Disk Usage: 68%