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## **Authentication and Monitoring System: Zoo Monitor System Program**

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### **PSEUDOCODE**

#### **PROGRAM ZooMonitorSystem:**

##### **CLASS ZooMonitorSystem**

```
METHOD main
    WHILE not true
        OBTAIN user first name or quit
        IF quit THEN
            EXIT WHILE
        ELSE
            OBTAIN user last name
            DEFINE user = first name + "." + last name
            CALL Authentication user
        ENDIF/ELSE
        IF CALL return false THEN
            DISPLAY user not registered
        ENDIF
    END WHILE
    DISPLAY Good Bye!
END METHOD
END CLASS
```

##### **CLASS Authenticate**

```
METHOD userCredentials
    OPEN credential file
    WHILE file has lines
        READ line on file
        IF user in line THEN
            FOR password entry three times
                OBTAIN user password
                CALL MD5Digest user password
                IF password in line
                    GET user role from line
                    CALL Role user role
            
```

```

ELSE IF password run three times
    DISPLAY account lock. program
terminated
    RETURN true
ELSE
    DISPLAY password incorrect
ENDIF/ELSE
ENDFOR
ENDIF
ENDWHILE
RETURN true/false\
END METHOD

METHOD MD5Digest
    // copy-paste code supplied
    RETURN password digested
END METHOD
END CLASS

```

### **CLASS Display**

```

METHOD showMenu
    DEFINE menu = log out
    IF user role veterinarian THEN
        menu += monitoring habitat
    IF user role zookeeper THEN
        menu += monitoring animal + habitat
    ELSE
        menu += monitoring animal + habitat + user
    ENDIF/ELSE
    WHILE false
        DISPLAY menu
        GET user option
        SWITCH option
            CASE log out
                RETURN true
            CASE monitoring animals
                CALL Monitoring animals user role
            CASE monitoring habitats
                CALL Monitoring habitats user role
            CASE user
                CALL User
        ENDSWITCH
    ENDWHILE
    RETURN true/false
END METHOD
END CLASS

```

**CLASS RoleModule**

```
    METHOD showDashboard
        OPEN user role file
        WHILE file has lines
            READ line on file
            DISPLAY line
        ENDWHILE
        CALL METHOD showMenu user role
        RETURN true/false
    END METHOD
END CLASS
```

**CLASS UserModule**

```
    METHOD showMngrTable
        OPEN credentials file
        WHILE file has lines
            READ line on file
            DISPLAY line
        ENDWHILE
    END METHOD
END CLASS
```

**CLASS MonitorModule**

```
    METHOD showDashboard
        If animals THEN
            SET file = animals file
        ELSE
            SET file = habitats file
        ENDIF/ELSE
        WHILE file has lines
            OPEN file
            READ line on file
            IF lines contain "DETAILS"
                DISPLAY line
            ENDIF
        ENDWHILE
        WHILE true
            DISPLAY select animal/habitat detail or GO
        MainMenu
            GET user selection
            IF selection animal
                METHOD Details animals file
            ELSE IF selection habitat
                METHOD Details habitats file
            ELSE IF selection GO MainMenu
                CALL Role user role
            ENDIF/ELSE
        ENDWHILE
    END METHOD
END CLASS
```

```

        ENDWHILE
    END METHOD

    METHOD showDetails
        OPEN file
        WHILE line is not null
            READ line on file
            IF line null or file last line THEN
                EXIT WHILE
            ELSE IF line contain "*****" THEN
                DISPLAY dialog box
            ELSE
                DISPLAY line
            ENDIF/ELSE
        ENDWHILE
        WAIT user press enter
    END METHOD
END CLASS

```

## METHODS AND CLASSES

Defined our complete pseudocode and program executing correctly, we split the code in the following classes with respective methods:

- CLASS ZooMonitoringSystem
  - METHOD main
- CLASS Authenticate
  - METHOD userCredentials
  - METHOD MD5Diegest
- CLASS Display
  - METHOD clearScreen
  - METHOD strRepeat
  - METHOD showBanner
  - METHOD showDialog
  - METHOD showMenu
- CLASS MonitorModule

- METHOD showDashboard
  - METHOD shoeDetails
- CLASS RoleMonitor
  - METHOD showDashboard
  - METHOD wrapLines
- CLASS UserModule
  - METHOD showMngrTable