**Project 1 –Extended Instructions**

Objective:

-We have provided sample data which we expect to see in the database. You can embellish it accordingly to fit your database schema.

-You can test your design using your own data. But at the time of evaluation we expect to have only the sample data provided by us in your database.

-Section one gives a flow that your menu-driven program should follow.

**1. Program Flow Table**

The menu driven program should be able to do the following.

Note: The following describes only some of the actions. It is expected that your program provides the other functionalities too.

1. Start:

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| --- | --- | --- | --- |
| Step | Input Display | User Input | Processing & Output |
| 1. | 1. Login  2. Guest Login  3. Exit | Enter option | -validate choice and print “invalid choice” and go back if necessary |

1. Login

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Input Display | User Input | Processing & Output |
| 2.1 | 1. Enter Uid followed by password | Enter uid and password | Recognize if user Is a student or supervisor  -Print “Login Incorrect” and go back if password doesn’t match Uid |

1. Logged in as student

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| --- | --- | --- | --- |
| Step | Input Display | User Input | Processing & Output |
| 3.1 | 1. Housing option  2. Parking option  3. Maintenance  4. Profile  5. Back | Enter choice | -validate choice and print “invalid choice” and go back if necessary |

3A. Housing options for students

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| --- | --- | --- | --- |
| Step | Input Display | User Input | Processing & Output |
| 3A | Housing options:  1. View Invoices  2. View leases  3. New request  4. View/Cancel requests  5. View vacancy  6. Back | Enter choice | Display the options for users. |
| 3A.1 | View Invoices:   1. View current invoice 2. View former invoices 3. Back | Enter choice | Display the options for users. |
| 3A.1.1 | View Current Invoice  1. Back | Enter choice | Display all of the information as requested in the project description, i.e. housing rent, parking rent, payment date, etc… |
| 3A.1.2 | View Former Invoices  1. Invoice 1 (Period)  2. Invoice 2 (Period)  .  .  .  0. Back | Enter choice | Based on the choice, display the corresponding invoice. |
| 3A.2 | View leases:  1. View current lease  2. View former leases  3. Back | Enter choice | Display the options for users. |
| 3A.2.1 | View Current Lease  1. Back | Enter choice | Display all of the information as requested in the project description, i.e. lease number, the room number and so on. |
| 3A.2.2 | View Former Leases  1. Lease 1 (Period)  2. Lease 2 (Period)  .  .  0. Back | Enter choice | Based on the choice, display the corresponding lease. |
| 3A.3 | New request:  1. New lease request  2. Terminate lease request  3. Back | Enter choice | Display the options for users. |
| 3A.3.1 | New lease request  Enter following details:  - Period for leasing  - Three housing preference including specific halls or alternative like apartment, resident hall (if resident hall then student or family apartment) or private housing (not eligible for freshmen)  - The date you want to enter the room  - Payment options, monthly or once semester  1. Submit  2. Back | Enter information | -Enter the information to issue a new lease and save the data into the tables when it is submitted. |
| 3A.3.2 | Terminate lease request  Enter following details:  - The date you want to leave  - Reason for termination  1. Submit  2. Back | Enter information | Enter the information, save |
| 3A.4 | View/Cancel request  1. View request  2. Cancel request  3. Back | Enter choice | Display the options for users. |
| 3A.4.1 | View Request  1. Back | Enter choice | Display all request with request number, status and other relevant information |
| 3A.4.2 | Cancel Request  1. Enter request number to cancel  2. Back | Enter choice | -To cancel new lease request and terminate lease requests.  -The status of request should change to “cancelled” |
| 3A.5 | View Vacancy  1. Back | Enter choice | Display all available vacancies. |

3B Parking option

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| --- | --- | --- | --- |
| 3B | Parking option  1. Request new parking spot  2. View parking lot information  3. View current parking spot  4. Renew parking spot  5. Return parking spot  6. View request status  7. Back | Enter choice | -Validate housing option, print “invalid choice” and go back if necessary |
| 3B.1 | Request new parking spot  Enter following details:  - Vehicle type  - Handicapped?  - Nearby Spot?  1. Submit  2. Back | Enter information | - Enter the information  - Vehicle types are Bike, Compact cars, Standard cars and Large cars  - Request can be made only when the student has been allocated an accommodation |
| 3B.2 | View parking lot information  1. Back | Enter choice | -Display the information of the parking lots including all of the information specified in the project description and availability of the parking lots. |
| 3B.3 | View current parking spot  1. Back | Enter choice | - Display the information current parking spot as specified in the project description especially parking permit number. |
| 3B.4 | Renew parking spot  1. Enter Parking spot ID  2. Back | Enter choice | - Renew parking spot if applicable. |
| 3B.5 | Return paring spot  1. Enter Parking spot ID  2. Back | Enter choice | - Return the parking spot. |
| 3B.6 | View request status  1. Back | Enter choice | - Display status of the last request made along with request information |

3C Maintenance

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| --- | --- | --- | --- |
| Step | Input Display | User Input | Processing & Output |
| 3C | 1. New Ticket 2. View Ticket Status 3. Back | Enter choice | -validate choice and print “invalid choice” and go back if necessary |
| 3C.1 | New Ticket  1. Select Type (Should be from a list)  2. Description | Enter information | -Enter the information |
| 3C.2 | View Ticket status  1. Ticket 1  2. Ticket 2  .  .  .  N. Ticket N  0. Back | Enter choice | - Detailed information about the ticket on selecting it. |

3D Profile

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| --- | --- | --- | --- |
| Step | Input Display | User Input | Processing & Output |
| 3D | 1. View Profile  2. Update Profile  3. Back | Enter choice | - validate choice and print “invalid choice” and go back if necessary |
| 3D.1 | View Profile  Display personal information of students like name, number, address, dob, gender, category (freshman, sophomore, etc) family details if needed, special needs etc (refer the description for a comprehensive list)  1. Back | Enter choice | - View basic profile information |
| 3D.2 | Update Profile  - List the profile details (Should be able to edit all profile details)  - Back | Enter choice | - Based on the selected option update the information. |

1. Logged in as Supervisor/Admin

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| Step | Input Display | User Input | Processing & Output |
| 4A | 1. View new lease requests  2. View terminate lease requests  3. View maintenance tickets  4. View parking requests  5. Profile (Check 3D) (Project description for details)  6. Back | Enter choice | -validate choice and print “invalid choice” and go back if necessary |
| 4A.1 | View new lease requests  1. Lease Request 1  2. Lease request 2  .  .  .  0. Back | Enter choice | -On selecting each request, display all the details of the request and the options to either approve or to put in waiting list.  -If there no housing option available, the student will be put in waiting list  -If approved, student should be assigned a room number and place number |
| 4A.2 | View terminate lease requests:  1. Terminate lease request 1  2. Terminate lease request 1  .  .  .  0. Back | Enter choice |  |
| 4A.2.1 | Terminate Lease Request ….  Enter inspection date  Enter damage fees (entered before for convenience)  1. Back | Enter choice | - Enter damage fees and the status of request should change to complete after the inspection date.  - The damage fees should be added to the invoice. |
| 4A.3 | View maintenance tickets  Ordering should be based on priority (check description)  1. Ticket 1  2. Ticket 2  .  .  .  0. Back | Enter choice | - On selecting each request, display all the details of the request.  - The status of request should change to “processing”  - Then the request status should change to complete after 30 mins (to avoid another manual intervention) |
| 4A.4 | View parking requests  1. Parking request 1  2. Parking request 2  .  .  .  0. Back | Enter choice | -On selecting each request, display all the details of the request and the options to either approve or reject the request.  -The request can be approved only if all the criteria given by the student satisfies. |

5. Guest Login

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| Step | Input Display | User Input | Processing & Output |
| 5 | 1. Enter approval id  2. Back | Enter choice | - get guest details based on approval id  -validate choice and print “invalid choice” and go back if necessary |
| 5.1 | 1. Housing Option (Check 3A)  2. Parking Option (Check 3B, but only general parking is available for guests.)  3. Maintenance (Check 3C)  4. Profile (Check 3D)  5. Back | Enter choice | - validate choice and print “invalid choice” and go back if necessary |

Note: For every invalid choices or entered information, the system should display the error message corresponding to what the error is, for example,

-If selected housing option is already full, display “No room available”.

-If student is freshmen, and 3 is chosen, display “not eligible for freshman”

-If the deadline for starting a new lease is passed, display “can’t issue a new lease because of passing the due day”.

**Clarifications (Mostly taken from project description):**

* Lease request status: Approved, if a housing option is available. Waiting, if housing option is currently not available. If housing becomes available, first preference should be given to students in waiting list.
* Students may rent a room in a hall of residence or apartment. Only university students and approved guests are eligible for university housing. Some specific residence halls are open to only graduate students
* Apartments: are either general student apartments or family apartments
* The housing office also maintains of private accommodation - from rooms in shared houses, to apartments and family homes, for students who prefer to live off campus in the local community. However, this is not an option available to freshmen.
* Parking lots: Parking lots near housing(can be more than one near a housing option) and general parking lot
* A valid lease is required to request parking spot in the housing area (nearby). But, guests (others) can make request for parking spot in general parking lot.
* If the lease is terminated or finished, the parking spot should be returned
* Parking spot request can be made anytime during the lease. A student can have at most one parking spot.
* Type of vehicles: bike, compact cars, standard cars and large cars.
* There should be handicapped parking spot in each lot.
* Maintenance tickets:
  + Water, Electricity – High severity
  + Appliances, Internet – Medium severity
  + Cleaning, Miscellaneous – Low severity