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 \* COS70006

 \* Project 2 – GUI Parking Spot System

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 \* @version jdk 14.0.1

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GUI components included:

* JFrame
* Jbutton
* JPanel
* JLabel
* JList
* JOptionPane

Event handling function:

There are 7 Buttons on the menu representing the options of action available to the carpark administrator. Each button has an action listener and a corresponding event handling function.

1. Update slot lists

* Event handling function -> opt1\_listAllSlots()

The function is to show on the screen all carpark slots in the carpark and organize them into two lists, one for Staff and the other for Visitor

1. Park a car

* Event handling function -> opt2\_parkCar()

The function is to park a car into a carpark slot.

* + Both parking slot lists for Staff and Visitor will be refreshed on screen.
  + The user will be prompted to enter (1) the registration number of the car to park, (2) if the car is from a Staff or a Visitor, and (3) the slot ID of the parking slot to park the car.
  + The function will loop through all park slots to identify the slot with the given slot ID, and then check if the slot is occupied or not.
  + Only when the slot is not occupied, the function will park the car into the slot by setting the slot to “occupied” with the registration number of the car and advise user the car is successfully parked.

1. Find a car

* Event handling function -> opt3\_findCar()

The function is to find a car with the registration number given by the user

* + Both parking slot lists for Staff and Visitor will be refreshed on screen.
  + The user will be prompted to enter the registration number of the car to find.
  + The function will loop through the list of cars parked at the carpark to see if any of the car has a registration number that matches.
  + A message box will appear to advise the user if the car is found or not.

1. Remove a car

* Event handling function -> opt4\_removeCar()

The function is to remove a car with the registration number given by the user

* + Both parking slot lists for Staff and Visitor will be refreshed on screen.
  + The user will be prompted to enter the registration number of the car to remove.
  + The function will loop through the lists of parking slots to see if any slot is occupied by a car with the given registration number
  + If the car is found, the function will remove the car from the parking slot by setting the slot as not occupied
  + A message box will appear to advise the user if the car is removed or not.

1. Add a car slot

* Event handling function -> opt5\_addSlot()

The function is to add one parking slot to the carpark.

* + Both parking slot lists for Staff and Visitor will be refreshed.
  + The user will be asked to specify which type of car park slot (Staff or Visitor) to add
  + A message box will appear to advise the user a slot is successfully added.

1. Delete a car slot

* Event handling function -> opt6\_deleteSlot()

The function is to delete a parking slot from the carpark.

* + Both parking slot lists for Staff and Visitor will be refreshed.
  + The user will be prompted to enter a slot ID for deletion
  + The function will loop through each slot in the carpark to see if any slot has a slot ID matches the one given by the user
  + If a match is found, then the function will check if the slot with the matching ID is occupied or not. Only an unoccupied slot will be deleted from the carpark
  + A message box will appear to advise the user if a slot is successfully deleted or not.

1. Exit

* Event handling function -> opt7\_exit()

The function is to exit the program.