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## **5COSC019C.1 Object-Oriented Programming Coursework – Tests Plan**

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#	Test Case	Test Case Description	Expected Result	Actual Result	Pass/Fail
<b>Console System</b>					
1	Add a new doctor	The user enters "1" after the program starts.	The system asks for the first name of the doctor.	A prompt text appeared and asked for the doctor's first name.	Pass
2	Validate the doctor's first and last name	The user enters a number/special character as the input.	An error message appears saying that "The Name can only contain LETTERS!", and the system asks for the input again.	The error message was displayed, and the system asked for input again.	Pass
3	Validate the doctor's first and last name	The user enters nothing, and presses "Enter".	An error message appears saying that "The Name can only contain LETTERS!", and the system asks for the input again.	The error message was displayed, and the system asked for input again.	Pass
4	Validate the doctor's first and last name	The user enters only letters without spaces.	The system prompts the text for the next input.	The next input was asked by the system.	Pass
5	Validate the doctor's date of birth	The user enters letters/numbers/special characters in an improper format.	An error message appears saying that "Invalid Date!", and the system asks for the input again.	The error message was displayed, and the system asked for input again.	Pass
6	Validate the doctor's date of birth	The user enters nothing, and presses "Enter".	An error message appears saying that "Invalid Date!", and the system asks for the input again.	The error message was displayed, and the system asked for input again.	Pass
7	Validate the doctor's date of birth	The user enters the date in the proper format (yyyy-mm-dd), but an invalid month/date which doesn't exist. (2000-01-32 / 2000-13-15)	An error message appears saying that "Invalid Date!", and the system asks for the input again.	The error message was displayed, and the system asked for input again.	Pass

8	Validate the doctor's date of birth	The user enters the date in the proper format, but the age of the doctor is less than 21. (2018-01-01)	An error message appears saying that "The age of the doctor must be in between 21 and 60", and the system asks for the input again.	The error message was displayed, and the system asked for input again.	Pass
9	Validate the doctor's date of birth	The user enters the date in the proper format, but the age of the doctor is greater than 60. (1950-01-01)	An error message appears saying that "The age of the doctor must be in between 21 and 60", and the system asks for the input again.	The error message was displayed, and the system asked for input again.	Pass
10	Validate the doctor's date of birth	The user enters the date in the proper format and the age is between 21 and 60. (1995-08-18)	The system prompts the text for the next input.	The next input was asked by the system.	Pass
11	Validate the doctor's mobile number	The user enters letters/special characters as the input.	An error message appears saying that "The mobile number can only contain NUMBERS!", and the system asks for the input again.	The error message was displayed, and the system asked for input again.	Pass
12	Validate the doctor's mobile number	The user enters only numbers, but the length is less than/greater than 10.	An error message appears saying that "The length of the mobile number must be 10!", and the system asks for the input again.	The error message was displayed, and the system asked for input again.	Pass
13	Validate the doctor's mobile number	The user enters nothing, and presses "Enter".	An error message appears saying that "The length of the mobile number must be 10!", and the system asks for the input again.	The error message was displayed, and the system asked for input again.	Pass
14	Validate the doctor's mobile number	The user enters 10 numbers as the input.	The system prompts the text for the next input.	The next input was asked by the system.	Pass
15	Validate the doctor's medical license number	The user enters letters/special characters as the input.	An error message appears saying that "The medical license number can only contain NUMBERS!", and the system asks for the input again.	The error message was displayed, and the system asked for input again.	Pass

16	Validate the doctor's medical license number	The user enters nothing, and presses "Enter".	An error message appears saying that "The medical license number can only contain NUMBERS!", and the system asks for the input again.	The error message was displayed, and the system asked for input again.	Pass
17	Validate the doctor's medical license number	The user enters a medical license number which has been already inputted.	An error message appears saying that "There cannot be doctors with the same medical licence number!", and the system asks for the input again.	The error message was displayed, and the system asked for input again.	Pass
18	Validate the doctor's medical license number	The user enters only numbers as the input.	The system prompts the text for the next input.	The next input was asked by the system.	Pass
19	Validate the doctor's specialization	The user enters nothing, and presses "Enter".	An error message appears saying that "The specialization field cannot be EMPTY!", and the system asks for the input again.	The error message was displayed, and the system asked for input again.	Pass
20	Validate the doctor's specialization	The user enters anything as the input.	A message displays that the doctor has been added to the centre and the number of doctors in the centre also displays. The menu appears again.	The success message and the number of doctors in the centre was displayed by the system. The menu appeared again.	Pass
21	Add more than 10 doctors	The user enters "1" in the menu after adding 10 doctors to the centre.	A message displays saying that "There are now a total of 10 doctors in the centre, which is the maximum allowed." And the menu displays again.	A message was displayed saying that "There are now a total of 10 doctors in the centre, which is the maximum allowed." And the menu displays again.	Pass
22	Delete a doctor	The user enters "2" in the menu as the input after adding some doctors to the centre.	The medical licence numbers of all the doctors in the centre are displayed, and the user is prompted to enter the licence number of the doctor user wants to delete.	The medical licence numbers of all the doctors in the centre are displayed, and the user is prompted to enter the licence number of the doctor user wants to delete.	Pass
23	Delete a doctor	The user enters "2" in the menu as the input before adding any doctor to the centre.	A message displays saying that "Currently there are no doctors in the centre." And the menu displays again.	A message was displayed saying that "Currently there are no doctors in the centre." And the menu was displayed again.	Pass

24	Validate the medical license number when deleting the doctor	The user enters a medical license number which is not related to the current doctors in the centre.	An error message appears saying that "There's no matching!", and the system asks for the input again by displaying the medical license numbers.	The error message was displayed, and the system asked for input again by displaying the medical license numbers.	Pass
25	Validate the medical license number when deleting the doctor	The user enters nothing, and presses "Enter".	An error message appears saying that "There's no matching!", and the system asks for the input again by displaying the medical license numbers.	The error message was displayed, and the system asked for input again by displaying the medical license numbers.	Pass
26	Validate the medical license number when deleting the doctor	The user enters a correct medical license number of a current doctor in the centre.	A confirm message and all the information of the deleted doctor displays with the remaining number of doctors in the centre.	A confirm message and all the information of the deleted doctor is displayed with the remaining number of doctors in the centre.	Pass
27	Display doctors	The user enters "3" in the menu as the input before adding any doctor to the centre.	A message displays saying that "Currently there are no doctors in the centre." And the menu displays again.	A message was displayed saying that "Currently there are no doctors in the centre." And the menu was displayed again.	Pass
28	Display doctors	The user enters "3" in the menu as the input after adding some doctors to the centre.	All the information of the doctors displays in the alphabetical order according to the doctor's last name and the menu displays again.	All the information of the doctors displayed in the alphabetical order according to the doctor's last name and the menu displayed again.	Pass
29	Save the doctors in a file	The user enters "4" in the menu as the input.	A message displays saying that "The data has been saved successfully!" And the menu displays again. The data successfully saves in a text file.	A message displayed saying that "The data has been saved successfully!" And the menu displayed again. The data successfully saved in a text file.	Pass
30	Load the doctors	The user enters "5" in the menu as the input before saving any data in previous programs.	A message displays saying that "The text file cannot be found." And the menu displays again.	A message displayed saying that "The text file cannot be found." And the menu displayed again.	Pass
31	Load the doctors	The user enters "5" in the menu as the input after saving the data in a previous program.	A message displays saying that "The data has been loaded successfully!" And the menu displays again. The data loads successfully.	A message displayed saying that "The data has been loaded successfully!" And the menu displayed again. The data loaded successfully.	Pass

32	Open in GUI	The user enters "6" in the menu as the input.	The GUI opens with all the current data in the program.	The GUI opened with all the current data in the program.	Pass
33	Exit	The user enters "7" in the menu as the input.	A message displays saying that "End of the program!" and the program ends.	A message displayed saying that "End of the program!" and the program ended.	Pass
34	Validate the menu option number	The user enters a number which is not an option in the menu. (A negative number / Zero / A number greater than 7)	An error message displays saying that "Oops...There's no such an option number." And the menu displays again.	An error message displayed saying that "Oops...There's no such an option number." And the menu displayed again.	Pass
35	Return to the menu command when getting inputs	The user enters "X" or "x" when the system prompts for an input. (Excluding the inputs in the menu)	A message displays saying that "Redirecting back to the menu...", and the menu displays again.	A message displayed saying that "Redirecting back to the menu...", and the menu displayed again.	Pass
GUI					
36	View doctors	The user presses "View Doctors" button in the GUI menu without adding or loading any doctor to the centre.	The menu window closes. The View Doctors window opens and displays that "Oops...Currently there are no doctors in the centre!"	The menu window closed. The View Doctors window opened and displayed that "Oops...Currently there are no doctors in the centre!"	Pass
37	View doctors	The user presses "View Doctors" button in the GUI menu after adding or loading some doctors to the centre.	The menu window closes. The View Doctors window opens, and all the stored information of the doctors visualises in a table.	The menu window closed. The View Doctors window opened, and all the stored information of the doctors visualised in a table.	Pass
38	Sort by first name	The user presses "Sort by First Name" button in the View Doctors window.	The data in the table sorts according to the first name of the doctors.	The data in the table sorted according to the first name of the doctors.	Pass

39	Sort by last name	The user presses "Sort by Last Name" button in the View Doctors window.	The data in the table sorts according to the last name of the doctors.	The data in the table sorted according to the last name of the doctors.	Pass
40	Refresh to default	The user presses "Refresh to Default" button in the View Doctors window.	The data in the table refreshes back to the added order of the doctors.	The data in the table refreshed back to the added order of the doctors.	Pass
41	Back to menu	The user presses "Back to Menu" button in the View Doctors window.	The View Doctors window closes, and the GUI menu opens again.	The View Doctors window closed, and the GUI menu opened again.	Pass
42	Consult a doctor	The user presses "Consult a Doctor" button in the GUI menu without adding or loading any doctor to the centre.	The menu window closes. The Consult a Doctor window opens and displays that "Oops...Currently there are no doctors in the centre!"	The menu window closed. The Consult a Doctor window opened and displayed that "Oops...Currently there are no doctors in the centre!"	Pass
43	Consult a doctor	The user presses "Consult a Doctor" button in the GUI menu after adding or loading some doctors to the centre.	The menu window closes. The Consult a Doctor window opens and asks the user to select a doctor and a date time to check the availability of the doctor.	The menu window closed. The Consult a Doctor window opened and asked the user to select a doctor and a date time to check the availability of the doctor.	Pass
44	Add consultation date	The user enters nothing in the date field and presses the "Check Availability" button.	An error window pops-up and displays "Invalid Date!"	An error window popped-up and displayed "Invalid Date!"	Pass
45	Add consultation date	The user enters letters/numbers/special characters in an improper format in the date field.	An error window pops-up and displays "Invalid Date!"	An error window popped-up and displayed "Invalid Date!"	Pass
46	Add consultation date	The user enters the date in the proper format (yyyy-mm-dd) in the date field, but an invalid month/date which doesn't exist. (2023-01-32 / 2023-13-15)	An error window pops-up and displays "Invalid Date!"	An error window popped-up and displayed "Invalid Date!"	Pass

47	<b>Add consultation date</b>	The user enters the date in the proper format (yyyy-mm-dd) in the date field, but a date that has already passed. (2022-01-01)	An error window pops-up and displays "The date has already passed!"	An error window popped-up and displayed "The date has already passed!"	Pass
48	<b>Add consultation starting time</b>	The user enters nothing in the starting time field and presses the "Check Availability" button.	An error window pops-up and displays "Invalid Starting Time!"	An error window popped-up and displayed "Invalid Starting Time!"	Pass
49	<b>Add consultation starting time</b>	The user enters letters/numbers/special characters in an improper format in the starting time field.	An error window pops-up and displays "Invalid Starting Time!"	An error window popped-up and displayed "Invalid Starting Time!"	Pass
50	<b>Add consultation starting time</b>	The user enters the date as today and enters a time that has already passed as the starting time. (Date: 2023-01-02 / Starting Time: 08:00)	An error window pops-up and displays "The starting time has already passed!"	An error window popped-up and displayed "The starting time has already passed!"	Pass
51	<b>Add consultation starting time</b>	The user enters a time before 08:00 as the starting time. (Starting Time: 07:00)	An error window pops-up and displays "The starting time must be in the range between 08:00 - 17:00!"	An error window popped-up and displayed "The starting time must be in the range between 08:00 - 17:00!"	Pass
52	<b>Add consultation ending time</b>	The user enters nothing in the ending time field and presses the "Check Availability" button.	An error window pops-up and displays "Invalid Ending Time!"	An error window popped-up and displayed "Invalid Ending Time!"	Pass
53	<b>Add consultation ending time</b>	The user enters letters/numbers/special characters in an improper format in the ending time field.	An error window pops-up and displays "Invalid Ending Time!"	An error window popped-up and displayed "Invalid Ending Time!"	Pass
54	<b>Add consultation ending time</b>	The user enters a valid starting time and enters a time that has already passed as the ending time. (Starting Time: 13:00 / Ending Time: 10:00)	An error window pops-up and displays "The ending time must be after the starting time!"	An error window popped-up and displayed "The ending time must be after the starting time!"	Pass



55	<b>Add consultation ending time</b>	The user enters a valid starting time and enters a time after 17:00 as the ending time. (Starting Time: 13:00 / Ending Time: 18:00)	An error window pops-up and displays "The ending time must be in the range between 08:00 - 17:00!"	An error window popped-up and displayed "The ending time must be in the range between 08:00 - 17:00!"	Pass
56	<b>Check the duration of the consultation</b>	The user enters a valid date, starting time and an ending time, but the time difference is less than 5 minutes. (Starting Time: 13:00 / Ending Time: 13:04)	An error window pops-up and displays "The minimum duration of a consultation must be at least 5 minutes!"	An error window popped-up and displayed "The minimum duration of a consultation must be at least 5 minutes!"	Pass
57	<b>Check availability</b>	The user enters all valid information and presses "Check Availability" button.	A pop-up message displays with the doctor available status and the consultation information. The confirmation window opens and the consult a doctor window closes.	A pop-up message displayed with the doctor available status and the consultation information. The confirmation window opened and the consult a doctor window closed.	Pass
58	<b>Check availability</b>	The user selects the same doctor and enter the same date and time for the second consultation.	A pop-up message displays with the doctor not available status and displays the information of the random assigned doctor. The confirmation window opens and the consult a doctor window closes.	A pop-up message displayed with the doctor not available status and displayed the information of the random assigned doctor. The confirmation window opened and the consult a doctor window closed.	Pass
59	<b>Check availability</b>	The user selects the same doctor and enter the starting or the ending time between a time of another consultation.	A pop-up message displays with the doctor not available status and displays the information of the random assigned doctor. The confirmation window opens and the consult a doctor window closes.	A pop-up message displayed with the doctor not available status and displayed the information of the random assigned doctor. The confirmation window opened and the consult a doctor window closed.	Pass
60	<b>Check availability</b>	The user enters another consultation after booking all the doctors in the centre at the same time.	A pop-up message displays saying that "All the doctors in the centre are not available at that time"	A pop-up message displayed saying that "All the doctors in the centre are not available at that time"	Pass

61	Back to menu	The user presses "Back to Menu" button in the Consult a Doctor window.	The Consult a Doctor window closes, and the GUI menu opens again.	The Consult a Doctor window closed, and the GUI menu opened again.	Pass
62	Validate the patient's first and last name	The user enters nothing in the name fields and presses the "Confirm" button.	An error message appears saying that "The Name can only contain LETTERS!"	An error message appeared saying that "The Name can only contain LETTERS!"	Pass
63	Validate the patient's first and last name	The user enters a number/special character as the input.	An error message appears saying that "The Name can only contain LETTERS!"	An error message appeared saying that "The Name can only contain LETTERS!"	Pass
64	Validate the patient's date of birth	The user enters nothing in the DOB field and presses the "Confirm" button.	An error message appears saying that "The Date of Birth is invalid!"	An error message appeared saying that "The Date of Birth is invalid!"	Pass
65	Validate the patient's date of birth	The user enters letters/numbers/special characters in an improper format in the DOB field.	An error message appears saying that "The Date of Birth is invalid!"	An error message appeared saying that "The Date of Birth is invalid!"	Pass
66	Validate the patient's date of birth	The user enters the date in the proper format (yyyy-mm-dd) in the DOB field, but an invalid month/date which doesn't exist. (2000-01-32 / 2000-13-15)	An error message appears saying that "The Date of Birth is invalid!"	An error message appeared saying that "The Date of Birth is invalid!"	Pass
67	Validate the patient's date of birth	The user enters the date in the proper format, but the age of the patient is less than 3. (2020-12-12)	An error message appears saying that "The age of the patient must be in between 3 and 100"	An error message appeared saying that "The age of the patient must be in between 3 and 100"	Pass
68	Validate the patient's date of birth	The user enters the date in the proper format, but the age of the patient is greater than 100 (1900-01-01)	An error message appears saying that "The age of the patient must be in between 3 and 100"	An error message appeared saying that "The age of the patient must be in between 3 and 100"	Pass

69	<b>Validate the patient's mobile number</b>	The user enters letters/special characters in the mobile number field and presses the "Confirm" button.	An error message appears saying that "The mobile number can only contain NUMBERS!"	An error message appeared saying that "The mobile number can only contain NUMBERS!"	Pass
70	<b>Validate the patient's mobile number</b>	The user enters nothing in the mobile number field and presses the "Confirm" button.	An error message appears saying that "The length of the mobile number must be 10!"	An error message appeared saying that "The length of the mobile number must be 10!"	Pass
71	<b>Validate the patient's mobile number</b>	The user enters only numbers in the mobile number field, but the length is less than/greater than 10.	An error message appears saying that "The length of the mobile number must be 10!"	An error message appeared saying that "The length of the mobile number must be 10!"	Pass
72	<b>Validate the patient's NIC</b>	The user enters letters/special characters in the NIC field and presses the "Confirm" button.	An error message appears saying that "The NIC can only contain NUMBERS!"	An error message appeared saying that "The NIC can only contain NUMBERS!"	Pass
73	<b>Validate the patient's NIC</b>	The user enters nothing in the NIC field and presses the "Confirm" button.	An error message appears saying that "The length of the NIC must be 10!"	An error message appeared saying that "The length of the NIC must be 10!"	Pass
74	<b>Validate the patient's NIC</b>	The user enters only numbers in the NIC field, but the length is less than/greater than 12.	An error message appears saying that "The length of the NIC must be 12!"	An error message appeared saying that "The length of the NIC must be 12!"	Pass
75	<b>Validate the patient's notes</b>	The user enters anything in the notes field and presses the "Confirm" button.	A new encrypted text file with the note, creates in the "Patient_Texts" folder. Consultation success message pops-up with the patient ID and the cost. Confirmation window closes and the menu opens again.	A new encrypted text file with the note, created in the "Patient_Texts" folder. Consultation success message popped-up with the patient ID and the cost. Confirmation window closed and the menu opened again.	Pass

76	Validate the patient's notes	The user enters nothing in the notes field and presses the "Confirm" button.	A new encrypted text file with the default "Empty", created in the "Patient_Texts" folder. Consultation success message pops-up with the patient ID and the cost. Confirmation window closes and the menu opens again.	A new encrypted text file with the default "Empty", created in the "Patient_Texts" folder. Consultation success message popped-up with the patient ID and the cost. Confirmation window closed and the menu opened again.	Pass
77	Validate the patient's image	The user presses the "Select a file" button.	A pop-up window appears with a message that "Once you added an image, you cannot edit the text in the Notes and you cannot go back!". The file chooser window opens.	A pop-up window appeared with a message that "Once you added an image, you cannot edit the text in the Notes and you cannot go back!". The file chooser window opened.	Pass
78	Validate the patient's image	The user selects an image from the file chooser and presses the "Confirm" button.	The selected image encrypts and uploads to the "Patient_Images" folder. The "Go Back" button and the notes field become disable. Consultation success message pops-up with the patient ID and the cost. Confirmation window closes and the menu opens again.	The selected image encrypted and uploaded to the "Patient_Images" folder. The "Go Back" button and the notes field became disabled. Consultation success message popped-up with the patient ID and the cost. Confirmation window closed and the menu opened again.	Pass
79	Validate the patient's image	The user does not select an image from the file chooser and presses the "Confirm" button.	A default image with the content of "No Image" encrypts and uploads to the "Patient_Images" folder. Consultation success message pops-up with the patient ID and the cost. Confirmation window closes and the menu opens again.	A default image with the content of "No Image" encrypted and uploaded to the "Patient_Images" folder. Consultation success message popped-up with the patient ID and the cost. Confirmation window closed and the menu opened again.	Pass
80	Calculate Cost	The user enters a new patient NIC and clicks "Confirm" button.	A consultation success message pops-up with the cost which is £ 15 per hour.	A consultation success message popped-up with the cost which is £ 15 per hour.	Pass
81	Calculate Cost	The user enters an existing patient NIC and clicks "Confirm" button.	A consultation success message pops-up with the cost which is £ 25 per hour.	A consultation success message popped-up with the cost which is £ 25 per hour.	Pass
82	Go back Button	The user presses the "Go Back" button in the confirmation window.	The doctor consultation cancels. The confirmation window closes. The consult a doctor window opens again.	The doctor consultation cancelled. The confirmation window closed. The consult a doctor window opened again.	Pass

83	Confirm Button	The user enters all the valid data in the confirmation window and presses the "Confirm" button.	Consultation success message pops-up with the patient ID and the cost. Confirmation window closes and the menu opens again.	Consultation success message popped-up with the patient ID and the cost. Confirmation window closed and the menu opened again.	Pass
84	Consultation History	The user presses "Consultation History" button in the GUI menu without adding any consultation.	The menu window closes. The Consultation History window opens and displays that "Oops...Currently there is no consultation history in the centre!"	The menu window closed. The Consultation History window opened and displayed that "Oops...Currently there is no consultation history in the centre!"	Pass
85	Consultation History	The user presses "Consultation History" button in the GUI menu after adding some consultations.	The menu window closes. The Consultation History window opens and asks the user to select the consultation that the user wants to visualise.	The menu window closed. The Consultation History window opened and asked the user to select the consultation that the user wants to visualise.	Pass
86	Selects a consultation to visualise	The user selects a consultation to visualise from the combo-box and presses the "Search" button.	All the information of the consultation and the patient appears in the window with the decrypted text and the image.	All the information of the consultation and the patient appeared in the window with the decrypted text and the image.	Pass
87	Back to menu	The user presses "Back to Menu" button in the Consultation History window.	The Consultation History window closes, and the GUI menu opens again.	The Consultation History window closed, and the GUI menu opened again.	Pass
88	Consult a doctor button in the Consultation History window	The user presses "Consult a Doctor" button in the Consultation History window.	The Consultation History window closes, and the Consult a Doctor window opens again.	The Consultation History window closed, and the Consult a Doctor window opened again.	Pass
89	Exit	The user presses "Exit" button in the GUI menu.	The GUI closes.	The GUI closed.	Pass
90	Clear data	The user presses "Clear Data" button in the GUI menu.	A pop-up window appears saying that "All the GUI data has been cleared". All the text files related to the GUI, patient images and patient text files are deleted from the system.	A pop-up window appeared saying that "All the GUI data has been cleared". All the text files related to the GUI, patient images and patient text files are deleted from the system.	Pass

