IT314 Software Engineering

Hospital Management System

Black Box Testing

Group Number - 15

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Black box testing involves less attention to the implementation or code and more focus on the software's functionality.

Login

Equivalence Class Partitioning

Equivalence Class	Email	Password	Expected Output
E1	Valid	Valid	To Home Page
E2	Valid	Invalid(wrong Password or empty)	Error
E3	Invalid(wrong email or empty)	Valid	Error
E4	Invalid(wrong email or empty)	Invalid(wrong Password or empty)	Error

The validity checks for login.

VC1: All details cannot be blank.

VC2: Email must be in valid format.

VC3: Email must be registered.

VC4: Password must be valid.

Validity Check No.	Email Address	Password	Expected Output	Remarks
VC1	abc@gmail.com	Xyzmnb#1	True	Details are not blank
			False	Details are blank
VC2	abc@gmail.com	Xyzmnb#1	True	Email is valid
	abc.com	Xyzmnb#1	False	Email is Invalid
VC3	abc@gmail.com	Xyzmnb#1	True	Email is registered
	wb@gmail.com	Xyzmnb#1	False	Email is not registered
VC4	abc@gmail.com	Xyzmnb#1	True	Password is valid
	abc@gmail.com	xyz#1	False	Password is not valid

Registration and Edit Profile

Equivalence Class Partitioning

For Phone Number:

Equivalence Class	Description	Expected Output
E1	Have 10 digits	Valid
E2	Donot have 10 digits	Invalid
E3	Empty Phone Number	Invalid

For Password:

Equivalence Class	Description	Expected Output
E1	Have minimum 8 char	Valid
E2	Have less than 8 character	Invalid
E3	Empty Password	Invalid

For Postal Code:

Equivalence Class	Description	Expected Output
E1	Have 6 digits	Valid
E2	Donot have 6 digits	Invalid
E3	Empty Postal Code	Invalid

For Date of Birth:

Equivalence Class	Description	Expected Output
E1	Not a Future DOB	Valid
E2	Future DOB	Invalid
E3	Empty DOB	Invalid

Boundary Value Analysis

For Phone Number:
- Test for Number just less than 10 i.e, 9 digits.
- Test for Number just greater than 10 i.e, 11 digits.
- Test for Number equals to 10 digits.

For Password:
- Test for Password just greater than minimum i.e, 9 char.
- Test for Password just less than 8 char i.e, 7 char.
- Test for Password equals 8 char.

For Postal Code:
- Test for Postal Code just greater than 6 digits i.e, 7 digits.
- Test for Postal Code just less than 6 digits i.e, 5 digits.
- Test for Postal Code equals 6 digits.

The validity checks for Registration and Edit Profile.

VC1: All details cannot be blank.

VC2: Name should contain only alphabets and spaces.

VC3: Email should be in valid format.

VC4: Phone number must be of 10 digits.

VC5: Phone number must be in numeric format.

VC6: Password must be atleast 8 character long.

VC7: Password must have atleast 1 uppercase letter.

VC8: Password must have atleast 1 lowercase letter.

VC8: Password must have atleast 1 Number.

VC9: Password must have atleast 1 Special Character.

VC10: Re-enter Password must match Password.

VC11: Postal Code must be 6 digit number.

VC12: Postal Code must be in numeric format.

VC13: Date of Birth must not be future date.

Validity Check No.	Name	Email	Password	Re-enter Password	Phone Number	Date of Birth	Postal Code	Expected Outcome	Remarks
VC1	Raj Lal	raj@gmail.com	Rajlal#12	Rajlal#12	987362XXXX	13-09-2001	231415	True	Valid details
								False	Blank details
VC2	Raj Lal	raj@gmail.com	Rajlal#12	Rajlal#12	987362XXXX	13-09-2001	231415	True	Valid Name
	Rajlal23	raj@gmail.com	Rajlal#12	Rajlal#12	987362XXXX	13-09-2001	231415	False	Invalid Name
VC3	Raj Lal	raj@gmail.com	Rajlal#12	Rajlal#12	987362XXXX	13-09-2001	231415	True	Valid Email
	Raj Lal	raj.com	Rajlal#12	Rajlal#12	987362XXXX	13-09-2001	231415	False	Invalid Email
VC4	Raj Lal	raj@gmail.com	Rajlal#12	Rajlal#12	987362XXXX	13-09-2001	231415	True	Valid Ph No.
	Raj Lal	raj@gmail.com	Rajlal#12	Rajlal#12	987362XXX	13-09-2001	231415	False	Ph No. < 10 digits
VC5	Raj Lal	raj@gmail.com	Rajlal#12	Rajlal#12	987362XXXX	13-09-2001	231415	True	Valid Ph No.
	Raj Lal	raj@gmail.com	Rajlal#12	Rajlal#12	abcxyz	13-09-2001	231415	False	Char in Ph No.
VC6	Raj Lal	raj@gmail.com	Rajlal#12	Rajlal#12	987362XXXX	13-09-2001	231415	True	Password is 9 char long
	Raj Lal	raj@gmail.com	Raj#12	Rajlal#12	987362XXXX	13-09-2001	231415	False	Password < 8 char

VC7	Raj Lal	raj@gmail.com	Rajlal#12	Rajlal#12	987362XXXX	13-09-2001	231415	True	Password has 1 uc letter
	Raj Lal	raj@gmail.com	rajlal#12	Rajlal#12	987362XXXX	13-09-2001	231415	False	Don't have uc letter
VC8	Raj Lal	raj@gmail.com	Rajlal#12	Rajlal#12	987362XXXX	13-09-2001	231415	True	Password has 1 lc letter
	Raj Lal	raj@gmail.com	RAJLAL#12	Rajlal#12	987362XXXX	13-09-2001	231415	False	Don't have lc letter
VC9	Raj Lal	raj@gmail.com	Rajlal#12	Rajlal#12	987362XXXX	13-09-2001	231415	True	Pass. has 1 special char
	Raj Lal	raj@gmail.com	Rajlal12	Rajlal#12	987362XXXX	13-09-2001	231415	False	No special char
VC10	Raj Lal	raj@gmail.com	Rajlal#12	Rajlal#12	987362XXXX	13-09-2001	231415	True	Password Matched
	Raj Lal	raj@gmail.com	Rajlal#12	Rajlal#13	987362XXXX	13-09-2001	231415	False	Pass. not Matched
VC11	Raj Lal	raj@gmail.com	Rajlal#12	Rajlal#12	987362XXXX	13-09-2001	231415	True	PC = 6 digit
	Raj Lal	raj@gmail.com	Rajlal#12	Rajlal#12	987362XXXX	13-09-2001	23154	False	PC < 6digit
VC12	Raj Lal	raj@gmail.com	Rajlal#12	Rajlal#12	987362XXXX	13-09-2001	231415	True	PC = number

	Raj Lal	raj@gmail.com	Rajlal#12	Rajlal#12	987362XXXX	13-09-2001	12qw	False	PC != number
VC13	Raj Lal	raj@gmail.com	Rajlal#12	Rajlal#12	987362XXXX	13-09-2001	231415	True	DOB is valid
	Raj Lal	raj@gmail.com	Rajlal#12	Rajlal#12	987362XXXX	13-09-2050	231415	True	DOB is invalid

Add New Employee

Equivalence Class Partitioning

For Date of Birth:

Equivalence Class	Description	Expected Output
E1	Not a Future DOB	Valid
E2	Future DOB	Invalid
E3	Empty DOB	Invalid

For Postal Code:

Equivalence Class	Description	Expected Output
E1	Have 6 digits	Valid
E2	Donot have 6 digits	Invalid
E3	Empty Postal Code	Invalid

For Mobile Number:

Equivalence Class	Description	Expected Output
E1	Have 10 digits	Valid
E2	Donot have 10 digits	Invalid
E3	Empty Mobile Number	Invalid

Boundary Value Analysis

For Phone Number:
- Test for Number just less than 10 i.e, 9 digits.
- Test for Number just greater than 10 i.e, 11 digits.
- Test for Number equals to 10 digits.

For Postal Code:
- Test for Postal Code just greater than 6 digits i.e, 7 digits.
- Test for Postal Code just less than 6 digits i.e, 5 digits.
- Test for Postal Code equals 6 digits.

The validity checks for adding new Employee.

VC1: All details cannot be blank.

VC2: Name should contain only alphabets and spaces.

VC3: Date of Birth cannot be a future date.

VC4: Email Address should be valid.

VC5: Postal Code must be of 6 digit.

VC6: Postal Code must be Numeric.

VC7: Mobile Number must be of 10 digit.

VC8: Mobile Number must be Numeric.

Validity Check No.	Name	Date of Birth	Email	Mobile No.	Postal Code	Exepected Outcome	Remarks
VC1	Dev Jha	12-02-2001	dev@gmail.com	878329XXXX	283628	True	Valid details
						False	Blank details
VC2	Dev Jha	12-02-2001	dev@gmail.com	878329XXXX	283628	True	Valid Name
	Dev12	12-02-2001	dev@gmail.com	878329XXXX	283628	False	Invalid Name
VC3	Dev Jha	12-02-2001	dev@gmail.com	878329XXXX	283628	True	DOB is not future date
	Dev Jha	12-02-2051	dev@gmail.com	878329XXXX	283628	False	DOB is future date

VC4	Dev Jha	12-02-2001	dev@gmail.com	878329XXXX	283628	True	Valid Email
	Dev Jha	12-02-2001	dev.com	878329XXXX	283628	False	Invalid Email
VC5	Dev Jha	12-02-2001	dev@gmail.com	878329XXXX	283628	True	Postal Code = 6 digit
	Dev Jha	12-02-2001	dev@gmail.com	878329XXXX	28289	False	Postal Code != 6 digit
VC6	Dev Jha	12-02-2001	dev@gmail.com	878329XXXX	283628	True	Postal Code is Numeric
	Dev Jha	12-02-2001	dev@gmail.com	878329XXXX	adcwac	False	Postal Code is not Numeric
VC7	Dev Jha	12-02-2001	dev@gmail.com	878329XXXX	283628	True	Mobile Number is of 10 digit
	Dev Jha	12-02-2001	dev@gmail.com	878329XXX	283628	False	Mobile Number is not 10 digit
VC8	Dev Jha	12-02-2001	dev@gmail.com	878329XXXX	283628	True	Mobile Number is Numeric
	Dev Jha	12-02-2001	dev@gmail.com	hgckhbiu	283628	False	Mobile Number is not Numeric

Book Appointment

Equivalence Class Partitioning

For Date:

Equivalence Class	Description	Expected Output
E1	Future or Present Date	Valid
E2	Not a Future Date	Invalid
E3	Empty Date	Invalid

For Patient ID:

Equivalence Class	Description	Expected Output
E1	ID as per Database	Valid
E2	ID not in Database	Invalid

The validity checks for booking an Appointment.

VC1: Date should be of future or present.

VC2: Patient Name should be valid.

VC3: Patient ID should be valid.

VC4: All details cannot be blank.

Validity Check No.	Date	Patient Name	Patient Id	Expected Outcome	Remarks
VC1	08-12-2023	Prakash Bhai	T6557b3711	True	Valid Date
	02-10-2023	Prakash Bhai	T6557b3711	False	Invalid Date
VC2	08-12-2023	Prakash Bhai	T6557b3711	True	Valid Name
	08-12-2023	Prakash98	T6557b3711	False	Invalid Name
VC3	08-12-2023	Prakash Bhai	T6557b3711	True	Valid ID
	08-12-2023	Prakash Bhai	T6b3711	False	Invalid ID
VC4	08-12-2023	Prakash Bhai	T6557b3711	True	Valid Details
				False	Blank Details

Search Employee/Update Patient Visit/Search Patient

Equivalence Class Partitioning

For Patient ID:

Equivalence Class	Description	Expected Output
E1	ID as per Database	Valid
E2	ID not in Database	Invalid
E3	Empty ID	Invalid

The validity checks for search Employee.

VC1: Patient/Employee ID must be valid/in database.

VC2: ID cannot be empty.

Validity Check No.	ID	Expected Outcome	Remarks
VC1	T6557b3711	True	Valid ID
	T6557	False	Invalid ID
VC2	T6557b3711	True	ID is not empty
		False	ID is empty

View Appointment

Equivalence Class Partitioning

For Appointment Date:

Equivalence Class	Description	Expected Output
E1	Past Appointment Date	Valid
E2	Future App. Date	Invalid
E3	Empty App. Date	Invalid

The validity check form viewing appointment.

VC1: The appointment date must be of past.

VC2: Appointment date cannot be empty.

Validity Check No.	Date	Expected Outcome	Remarks
VC1	12-10-2023	True	Past Date
	01-01-2024	False	Not a Past Date
VC2	12-10-2023	True	Date is not empty
		False	Date is empty

Observation and Prescription

Equivalence Class Partitioning

For Patient ID:

Equivalence Class	Description	Expected Output
E1	ID as per Database	Valid
E2	ID not in Database	Invalid
E3	Empty ID	Invalid

For Doctor's Name:

Equivalence Class	Description	Expected Output
E1	Name as per Database	Valid
E2	Name not in Database	Invalid
E3	Empty Name	Invalid

For Date:

Equivalence Class	Description	Expected Output
E1	Appointment Date	Valid
E2	Not Appointment Date	Invalid
E3	Empty Date	Invalid

For Symptoms:

Equivalence Class	Description	Expected Output
E1	Comma Separated	Valid
E2	Character other than Comma	Invalid
E3	Empty Symptoms	Invalid

For Dosage:

Equivalence Class	Description	Expected Output
E1	Use of @	Valid

| E2 | Character other than @ | Invalid |
| E3 | Empty Dosage | Invalid |

For Follow Up Date:

Equivalence Class	Description	Expected Output
E1	Future Follow up Date	Valid
E2	Not a Future Follow up Date	Invalid
E3	Empty Date	Invalid

The validity checks for observation and prescription.

VC1: Patient ID should be valid.

VC2: Doctor Name should be as per Database.

VC3: Date should be date of appointment.

VC4: Symptoms should be separated by comma.

VC5: Use of @ to mention dose in a day.

VC6: Follow up date should be of Future.

VC7: All details cannot be blank.

Validity Check No.	Patient ID	Doctor Name	Date	Symptoms	Medicine and Dosage	Follow up Date	Expected Outcome	Remarks
VC1	T6557b3711	Dr. Smith	25-11-2023	Fever, Headache	Paracetamol@ 2	01-12-2023	True	ID is Valid
	Tb3711	Dr. Smith	25-11-2023	Fever, Headache	Paracetamol@ 2	01-12-2023	False	ID is Invalid
VC2	T6557b3711	Dr. Smith	25-11-2023	Fever, Headache	Paracetamol@ 2	01-12-2023	True	Valid Doctor Name
	T6557b3711	Dr. Yang	25-11-2023	Fever, Headache	Paracetamol@ 2	01-12-2023	False	Invalid Doctor Name
VC3	T6557b3711	Dr. Smith	25-11-2023	Fever, Headache	Paracetamol@ 2	01-12-2023	True	Valid Date
	T6557b3711	Dr. Smith	22-11-2023	Fever, Headache	Paracetamol@ 2	01-12-2023	False	Date is not Date of App.
VC4	T6557b3711	Dr. Smith	25-11-2023	Fever, Headache	Paracetamol@ 2	01-12-2023	True	Symptoms are comma separated
	T6557b3711	Dr. Smith	25-11-2023	Fever Headache	Paracetamol@ 2	01-12-2023	False	Symtoms are not comma

								separated
VC5	T6557b3711	Dr. Smith	25-11-2023	Fever, Headache	Paracetamol@ 2	01-12-2023	True	@ mentioned in dosage
	T6557b3711	Dr. Smith	25-11-2023	Fever, Headache	Paracetamol 2	01-12-2023	False	@ not mentioned in dosage
VC6	T6557b3711	Dr. Smith	25-11-2023	Fever, Headache	Paracetamol@ 2	01-12-2023	True	Future follow up date
	T6557b3711	Dr. Smith	25-11-2023	Fever, Headache	Paracetamol@ 2	01-09-2023	False	Not a future follow up date
VC7	T6557b3711	Dr. Smith	25-11-2023	Fever, Headache	Paracetamol@ 2	01-12-2023	True	Valid Details
							False	Blank Details

Generate Bill

1. Here the Receptionist can edit the Bill Invoice.
2. He/She has to fill up all the details of customer with validity.
3. Receptionist can add or remove items from the bill.
4. At the end the receptionist can print the bill.

Apply for Leave

1. Doctor and Receptionist can apply for leave and it can be approved or disapproved by Admin.
2. They have to fill a small form having *from* and *to* Date with Reason.
3. The *from* and *to* date should be valid i.e, *to* comes after *from*.

All Employee/Patient and Leaves

1. Admin can view the profiles of all the Employees and Patient.
2. Admin will be able to approve or disapprove the leaves of Receptionist and Doctor.

Prescriptions

1. Patient can able to view their prescriptions as prescribed by doctor.
2. These prescriptions are updated by the Doctor.