

Use Case	Input				
	name	Type	Count	Operation Method	Validation
1. checks account balance	Card Number	String	1	single value	16 char, not null, numbers only
	Password	string	1	single value	match as password exist
	option	char	1	single value	within choices
2. withdraws money	Card Number	string	1	single value	16 char, not null, numbers only
	Password	string	1	single value	match as password exist
	option	char	1	single value	within choices
	withdraws money amount	int	1	single value	not null, not more than 500 OMR
3. User logs into email account	Password	string	1	single value	match as password exist
	email address	string	1	single value	already sign up
	Authentication code	string	1	single value	code in same email address
	option	char	1	single value	within choices
4. User uploads a photo to a social media profile	image	int	1	Multiple values	within specific frame
	select option	char	1	single value	within choices
	option	char	1	single value	within choices
5. User plays a music file using a music player	file music name	string	1	single value	.mp3 extension
	stop option	char	1	single value	within choices
	player option	char	1	single value	within choices
	select option	char	1	single value	within choices
6. User sets a reminder on a smartphone	date and time	DateTime	1	single value	date and time correct format , not null
	place name	double	1	single value	not null
7. User books a movie ticket online	movie ticket code	string	1	single value	code exist
	number of books movie ticket	int	1	single value	not null, int format
	price	string	1	single value	not null

	confirm option	char	1	single value	within choices
8. User searches for a recipe on a cooking app	recipe name	string	1	single value	not null
9. User uploads multiple images to generate a slideshow video	images	int	>1	Multiple values	within specific frame
	DurationEachImage	double	1	single value	not null , just number
	width	double	1	single value	not null , just number
	hight	double	1	single value	not null, just number
	select option (for select in	char	1	single value	within choices
	option (for next button)	char	1	single value	within choices
10. User places an online food delivery order	order name	string	1	single value	not null
	number of order	int	1	single value	just number
	confirm option	char	1	single value	within choices
	price	double	1	single value	not null
	option (for next button)	char	1	single value	within choice
11. User schedules an appointment with a doctor through a health portal	appointment date	DateTime	1	single value	not null, date formate
	patient's name	string	1	single value	not null
	patient's phone number	string	1	single value	not null, 8 digit
	doctor name	string	1	single value	not null
	medical condition	string	1	single value	not null

12. User creates an event and invites friends on a calendar app	event title	string	1	single value	not null
	event date	DateTime	1	single value	not null, date formate accepted
	event location	string	1	single value	not null
	event description	string	1	single value	not null
	friends emails	string	>1	multivalues	not null, email formate accepted
	option	char	1	single value	not null
13. User applies for a loan via online banking	loan type	string	1	single value	Not null
	customer full name	string	1	single value	Not null
	Nationality	string	1	single value	Not null, only number
	National ID	string	1	single value	Not null, only number
	Date of Birth	DateTime	1	single value	Not null, date and time valid formate
	Gender	string	1	single value	Not null
	Father's name	string	1	single value	Not null
	Age	int	1	single value	Not null, two digit
	residency types	string	1	single value	Not null
	No. of dependents	string	1	single value	Not null
	educational qualification	string	1	single value	Not null
	Residence phone	string	1	single value	Not null
	email ID	string	1	single value	Not null, email valid formate
14. User registers and enrolls in a university course	course code	string	1	single value	not null
	student name	string	1	single value	not null
	student ID	string	1	single value	not null , 8 digit
	course price	string	1	single value	not null
	number of months	int	1	single value	not null
15. User customizes and purchases a T-shirt from	size	double	>1	multiple values	not null
	color	string	>1	multiple values	not null
	design	string	>1	multiple values	not null
	quantity	int	>1	multiple values	not null, >0

an online store	User Name	string	1	single value	not null
	User Email	string	1	single value	not null, email accepted format
	Bank card number	int	1	single value	not null, 12 digit, only number
16. User installs software using a package manager	package command	string	>1	multi values	Not null, valid command syntax
17. User reports a bug on a project management platform	bug title	string	1	single value	not null
	Priority	string	1	single value	not null, within option
	bug type	string	1	single value	not null
	bug description	string	1	single value	not null
Advanced Learning					
18. User uploads a resume and receives job recommendations	resume file	string	1	single value	not null, pdf except extension
19. User submits tax forms online and gets real-time calculations	form	string	>1	Multiple values	Not null
	tax value				
20. User uses a smart thermostat to schedule home temperature	temperature sensor reader	double	1	single value	not null, valid format
21. User trains a custom AI model on uploaded data	data	string	>1	Multiple values	not null
22. User tracks fitness data and gets personalized workout suggestions	fitness type	string	1	single value	not null, within selection
	country	string	1	single value	not null, within selection
	Age	int	1	single value	not null, just int value
	job type	string	1	single value	not null
	hotel name	string	1	single value	not null within choice
	to city	string	1	single value	not null

23. User reserves a hotel room, flights, and car rental in one session	car type	string	1	single value	not null
24. User uses a banking app to transfer funds with currency conversion	amount	string	1	single value	Not null
	from country	string	1	single value	Not null, within choice
	to country	string	1	single value	Not null, within choice
25. User completes a full patient intake process online before a hospital visit					
	patient name	string	1	single value	Not null
	visit id	string	1	single value	Not null, 4 digit
	sick state	string	1	single value	Not null
	city	string	1	single value	Not null, within choices
	phone number	string	1	single value	Not null, 8 digit
	patient email	string	1	single value	Not null, email formate valid
	date/ time	DateTime	1	single value	Not null
	patient visit date/ time	DateTime	1	single value	Not null

	Output			Process	
Conversion	Name	Type	Count	Single / multiple tasks	Name
Easy Level (1–8): Basic, straightforward use cases					
No	amount	double	1	multiple	checkCardValidity
No					CheckBalance
No					
No	withdraws money amount	double	1	multiple	checkCardValidity
No	Remaining Balance amount	double	1		CheckBalance
No					withdraws money
yes (conver from int to double)					remaining balance amount
NO	log to email account	ValidFlag	1	Multiple	password check
No					login
No					check email account
NO					log to email account
No	Add image to profile	int	Multi value	single	select photo
NO					Add photo to profile
NO					
No	player music	int	Multi value	Multiple	select file name
No					play music
No					stop music
No					
No	successfully reminder	bool	1	single	set reminder
No					
no					check number of movie ticket
no					books a movie tiket
yes (conver from string to int or double)					calculate total price

no	Total Price	double	1	Multiple	confirm books	
					payment	
no	recipt	string	1	single	search recipe	
Medium Level (9–17): Multi-step interactions						
No						
No						select images
No						
No						
No					Prepare image	
No						
No						
No	video	int	Multi value	multiple	slidesShow Video	
No	withdraws money amount	double	1		search order	
No					add order to list	
No					confirm order	
No					OrderList	
No					withdraws payment	
	order detail	string	>1		Multiple	
No	appointment detail				check doctor name exist	
No					create appoinment code	
No					confirm appointment	
No					appointment cost	
No			string	1	Multiple	appoinment detail

No	create event	string	1	multiple	create event
No	send event email to invites	bool	1		show event detail
No					send email to invites friends
No					
No					
No					
NO				multiple	apply loan
NO					
NO					customer information
NO					employer address details
NO					Loan detail
NO					
NO					
NO					
NO					
NO					
NO					
NO					
NO					
NO					
NO					
NO	loan detail	string	1		multiple
No				check course code exist	
No				register on course	
No				total course price	
No				confirm registration	
No	successfully register	bool	1	multiple	
No					Select T-shirt
No					Add T-shirt to cart
No					CheckOut
No				confirmation order	

No					send notification
No					
No	cart order detail	string	1	Multiple	
No	Downloaded package	string	>1		check package available
	installation progress	int	>1		download package
				Multiple	install software
No	Bug report submission status	string	1		submit_bug_report
no	Bug ID	string	1		generate_bug_id
No	Notification sent	string	1		notify_team
No				Multiple	

vel (18–25): Involve data processing, conditional logic, or multiple systems

No					submit_resume
					resume analysis
	list of jobs	string	>1	Multiple	job recomandation
yes					readform
					tax calculation
	update form	string	1	Multiple	writeform
No	current temp	double	1		thermostat Communication
	current state	string	1		thermostat Handling
	next change	double	1	Multiple	Status Feedback to User
yes					Preprocessing data
	AI model	string	1	Multiple	training_AI
No					
No	customer type	string	1		TrackInformation
No					personalized workout suggestions
No	personalized workout suggestions	string	1	Multiple	suggestions
No					avaiable rooms
					reserves room

Task (function)		
Input	Output Name	Outputtype
Card Number and password	ValidFlag	bool
Card Number	amount	double
Card Number and password	ValidFlag	bool
Card Number	amount	double
balance amount and withdraws money amount	withdraws money amount	double
balance amount and withdraws money amount	remaining money amount	double
password	ValidFlag	bool
password + email	email account	string
Authentication code	ValidFlag	bool
email adress+ password+ Authentication code	ValidFlag	bool
select option	ValidFlag	bool
image	profile with photo	int
select option	musics list	string
file music name + play option	pay music	int
file music name + stop option	validFlag	bool
date and time + place name	successfully reminder	bool
movie ticket code + number of books movie ticket	validFlag	bool
number of books movie ticket	validFlag	bool
number of books movie ticket + price	total price	double

confirm option	ValidFlag	bool
withdraws money	money amount	double
recipe name	detail recipe	string
select option	one character	char
image, width, hight	image	int
images + DurationEachImage	video	int
order name	order detail	string
order name+ number of order	order list	string
confirm option	validFlag	bool
order name+ price + number of order	detail order	string
price + number of order	money amount	double
doctor name	detail doctor information	string
medical condition + doctor name + date	appointment code	string
appointment code	ValidFlag	bool
appointment code + price	appointment total cost	double
appointment code + appointment total cose	appointment detail informatio	string

event title + event date + event location + event description	event code	string
event code	event detail	string
event code +friends email	SendFlag	bool
loan type	ValidFlag	bool
customer full name + Nationality + National ID + Date of Birth + Gender + Father's name + Age + residency types + No. of dependents + educational qualification + Residence phone + office phone + email ID	detail customer information	string
employer name employer ID	employer information	string
National ID + loan type	detail loan data	string
course code	CheckFlag	bool
student name + student ID	conformflag	bool
months + price	total course price	double
total course price + course code	successfull registration	bool
size + color + design+ quantity	detail T-shirt	string
detail T-shirt	Add flag	bool
user-Name + user Email + Bank card number	cart detail	string
user-Name + User Email +cart detail	ConfirmFlag	bool

UserEmail + cart detail	SendFlag	bool
package command	validFlage	bool
package command	package	string
package	software	string
bug type+ bug_description + bug title	submition successfully	bool
submission succesfully flag	bug id	string
bug id	notefication send	string
resume file	submission successfully	bool
resume file	key words	string
key_words	job list	string
form	price	double
price* tax value	total price	double
total price + form	update form	string
current temp + status	Current state from thermostat	double
current temp + status	temp change, update status	double
Current state from thermostat	Display of current temp, next change, status	double , string
data	cleaning data	string
cleaning data	AI model	string
fitness type, country, age, job type	customer type	string
customer type	fitnesslist	string
hotel name , to city	room id	string
room id , to city	reverse flag	bool

to city	flight id	string
flight id	reverse flag	bool
to city + hotel name + car type	car id	string
car id	reverse flag	bool
room id , flight id , car id	confirm flag	bool
confirm flag	reserves form	string
from country, to country	difference amount	double
amount , difference amount	final amount	double
patient name + visit id + sick state + city + phone number + patient visit date/ time	patient visit id	string
date/time	patient visit list	string
patient visit id	patient visit information	string
patient visit information + email	send notification in email	sting