

Use Case	Input					Process		Task (function)						
	name	Type	Constraint	Operation Method	Validation	Conversion	Name	Type	Constraint	Sample / multiple tasks	Name	Input	Output Name	Outputtype
1. checks account balance	Card Number	String	1 single value	1 single value	16 char, not null, numbers only	No	amount	double	1 multiple	No	checkCardValidity	Card Number and password	ValidFlag	bool
	Password	String	1 single value	1 single value	4 char, not null, numbers only within choices	No					checkBalance	Card Number		
2. withdraws money from ATM	Card Number	String	1 single value	1 single value	16 char, not null, numbers only	No	AmountOfWithdrawal	double	1 multiple	No	checkCardValidity	Card Number and password	ValidFlag	bool
	Password	String	1 single value	1 single value	4 char, not null, numbers only within choices	No					checkBalance	Card Number		
3. User logs into email account	Amount Of Withdrawal	double	1 single value	1 single value	Not exceeding 1000 RO, numbers only	No					WithdrawAmount	AmountOfWithdrawal	amount	double
	Email account	String	1 single value	1 single value	not null, contains @ symbol follows domain name	No	ViewEmail	string	1 multiple	No	AccountVerification	Email account	Verification	bool
4. User uploads a photo to a social media profile	password	String	1 single value	1 single value	At least one Capital letter, One Symbols, Small letters	No					OpenEmail	Email account	ViewEmail	string
	Email account	String	1 single value	1 single value	At least one Capital letter, One Symbols, Small letters	No					AccountVerification	Email account	Verification	bool
5. User plays a music file using a music player	OpenEmail	String	1 single value	1 single value	At least one Capital letter, One Symbols, Small letters	No	UploadPic	String	1 Yes	No	UploadPicture	Picture	ViewPicture	string
	Picture	Image	1 single value	1 single value	not null, Fits the standard image size	No	PlayMusic	String	1 Single	No	UploadMusicFile	Music	PlayMusic	string
6. User sets a reminder on a smartphone	MP3 Format	String	1 single value	1 single value	Valid Music File	Yes	PlayMusic	String	1 Single	No	SaveReminder	Reminder Text	Reminder	string
	Reminder Text	String	1 single value	1 single value	Not Null	No	Reminder	String	1 Multiple	No	SaveReminder	Reminder Text	Reminder	string
7. User books a movie ticket online	Date&Time	Date&Time	1 single value	1 single value	Must be in Future	Yes	Alert	string	1 Multiple	No	CheckMovieAvailability	Date&Time	Alert	string
	Movie Name	String	1 single value	1 single value	Not Null, Available in movie theater	No	MovieAvailable	string	1 Multiple	No	CheckMovieAvailability	Movie Name	MovieAvailable	bool
8. User searches for a recipe on a cooking app	Date&Time	Date&Time	1 single value	1 single value	Must be in Future	Yes	MovieBooked	string	1	No	BookMovie	Movie Name	MovieBooked	string
	Recipe title	string	1 single value	1 single value	Available in the Cooking App, Not null	Yes	DateTimeSaved	string	1 Multiple	No	SetAlert	Date&Time	DateTimeSaved	string
9. User uploads multiple images to generate a slideshow video	Chefs name	string	1 single value	1 single value	Available in the Cooking App, Not null	Yes	RecipeAvailable	string	1	No	CheckRecipeAvailability	Chefs name	RecipeAvailable	bool
							ChefsAvailable	string	1	No	CheckChefAvailability	Chefs name	ChefsAvailable	string
10. User places an online food delivery order	Images	jpg/png	multiple	List	Not null, Fits the standard image size, same file type	Yes	ShowRecipe	string	1	No	CheckRecipeAvailability	Recipe title	ShowRecipe	string
	Slide Duration	int	1 single value	1 single value	> 0	No	SlideshowVideo	video	1 Multiple	No	CheckImagesValidity	Images	SlideshowVideo	bool
11. User schedules an appointment with a doctor through a health portal	Food type	string	multiple	List	Available in the Delivery App, Not null	No	OrderPlaced	string	1 multiple	No	checkCardBalance	Card Number	ValidFlag	bool
	Restaurant name	string	1 single value	1 single value	Available in the Delivery App, Not null	No					checkDeliveryRegion	Location	ValidFlag	bool
12. User creates an event and invites friends on a calendar app	Card Number	string	1 single value	1 single value	16 char, not null, numbers only	No					checkDeliveryRegion	Location	ValidFlag	bool
	Location	string	1 single value	1 single value	Within delivery limits	No	PlaceOrder	Food type				Food type	OrderPlaced	string
13. User applies for a loan via online banking	Patient name	string	1 single value	1 single value	Letters only, not null	No	AppointmentPlaced	string	1 multiple	No	checkCardAvailability	Card Number	ValidFlag	bool
	Doctors name	string	1 single value	1 single value	Letters only, not null	No					checkImagesValidity	Images	SlideshowVideo	bool
14. User registers and enrolls in a university course	Patient ID	int	1 single value	1 single value	8 numbers only, not null, Available in civil registry	No					checkCardBalance	Card Number	ValidFlag	bool
	Patient Symptoms	string	multiple	List	8 numbers only, not null, Available in civil registry	Yes					checkDeliveryRegion	Location	ValidFlag	bool
15. User customizes and purchases a T-shirt from an online store	Date&Time	Date&Time	1 single value	1 single value	Must be in Future	No					PlaceAppointment	Patient ID	AppointmentPlaced	string
	The host ID	string	1 single value	1 single value	Letters only, not null	No	EventPlaced	string	1	No	checkEmailValidity	GuestsEmails	EventPlaced	string
16. User installs software using a package manager	Event name	string	1 single value	1 single value	Letters only, not null	No					CreateEvent			
	Event location	string	1 single value	1 single value	Letters only, not null	No								
17. User reports a bug on a project management platform	Date&Time	Date&Time	1 single value	1 single value	Must be in Future	No								
	GuestsEmails	List	multiple	List	valid Email format	Yes								
18. uploads a resume and receives job recommendations	User ID	string	1 single value	1 single value	8 numbers only, not null, Available in civil registry	No	LoanConfirmed	string	1 multiple	No	checkCardValidity	Credit Card number	ValidFlag	bool
	Credit Card number	string	1 single value	1 single value	16-char, not null, numbers only	No					AllowWithdrawAmount	Total Amount of Loan	LoanConfirmed	string
19. submits tax forms online and gets real-time calculations	Total Amount of Loan	double	1 single value	1 single value	Not null, Not exceeding 500 000 RO	No					LoanConfirmation			
	Type of Loan	string	1 single value		within choices	No								
20. uses a smart thermostat to schedule home temperature	Contact Number	string	1 single value	1 single value	Numbers only, not null	No								
	User Email	string	1 single value	1 single value	valid Email format	No								
21. trains a custom AI model on uploaded data	Student Name	string	1 Single Value	1 Single Value	Not null, letters only	No	CourseID	string	1 multiple	No	checkEmailsValidity	Student Email	ValidFlag	bool
	Student Password	string	1 Single Value	1 Single Value	Not null, letters only	No	TotalAmount	double	1	No	checkCourseAvailability	Selected Course	ValidFlag	bool
22. tracks fitness data and gets personalized workout suggestions	Student Email	string	1 Single Value	1 Single Value	Not null, contain of numbers and characters	No					calculateTotalAmount	Selected Course, Student Name	CourseID, TotalAmount	string / double
	Selected Course	string	1 Single Value	1 Single Value	Not null, valid email format	No	payment	string	1	No	confirmOrder	OrderID, User Name	ValidFlag	bool
23. reserves a hotel room, flights, and car rental in one session	Credit Card Number	string	1 Single Value	1 Single Value	within choice	No					generateBugReport	Student Name, Selected Course, Credit Card Number	CourseID, TotalAmount	string / double
	Contact Number	string	1 Single Value	1 Single Value	16 char, not null, numbers only	No								
24. uses a banking app to transfer funds with currency conversion	User Name	string	1 Single Value	1 Single Value	Numbers only, not null	No								
	User Name	string	1 Single Value	1 Single Value	Letters only, not null	No	TotalAmount	double	1 multiple	No	validateTshirtOrder	TShirt Size, TShirt Color, Quantity	ValidFlag	bool
25. completes a full patient intake process online before a hospital visit	User Email	string	1 Single Value	1 Single Value	Not null, must be a registered user	No	TotalAmount	double	1 multiple	No	calculateTotalAmount	Quantity	TotalAmount	double
	User Email	string	1 Single Value	1 Single Value	Not null, valid email format	No	OrderID	string	1	No	payment	Card Number	OrderID	string
26. User sets a reminder on a smartphone	TShirt Size	int/string	1 Single Value	1 Single Value	within choice, should be selected	No					confirmOrder	OrderID, User Name	ValidFlag	string
	TShirt Color	int	1 Single Value	1 Single Value	within choice, should be selected	No								
27. User reports a bug on a project management platform	Quantity	int	1 Single Value	1 Single Value	Numbers, not null, should be selected	No								
	payment Method	string	1 Single Value	1 Single Value	Numbers, not null, should be selected	No								
28. uploads a resume and receives job recommendations	Card Number	string	1 Single Value	1 Single Value	within choice	No								
	Address	string	1 Single Value	1 Single Value	16 char, not null, numbers only	No								
29. submits tax forms online and gets real-time calculations	Package Name	string	1 Single Value	1 Single Value	within choice	No	PackageID	string	1 multiple	No	checkPackageAvailability	Package Name, Package Version	ValidFlag	bool
	Package Version	string	1 Single Value	1 Single Value	within choice, not null	No					installPackage	Package Name, Package Version, System Requirement	PackageID	string
30. uses a smart thermostat to schedule home temperature	System Requirement	string	1 Single Value	1 Single Value	within choice, not null	No					ConfirmationInstallation	Package Name	ValidFlag	bool
	User ID	string	1 Single Value	1 Single Value	Not null, must be a registered user	No	reportID	string	1 multiple	No	validateBugDetails	projectID, bugTitle, bugDescription	ValidFlag	bool
31. trains a custom AI model on uploaded data	Project ID	string	1 Single Value	1 Single Value	Not null, must be a registered user	No					validateAttachmentFile	bugFileAttachment	ValidFlag	bool
	Bug Name	string	1 Single Value	1 Single Value	Not null, max character limit	No					generateBugReport	userId, _projectId,bugTitle,bugDescription,bugFileAttachment	reportID	string
32. tracks fitness data and gets personalized workout suggestions	Bug Description	string	1 Single Value	1 Single Value	Not null, max character limit	No								
	User Name	string	1 Single Value	1 Single Value	Not null, max character limit	No	JobRecommendation	string	1 multiple	No	ResumeValidity	User Name, Contact Number, User Email, Resume File	ValidFlag	bool
33. reserves a hotel room, flights, and car rental in one session	Contact Number	string	1 Single Value	1 Single Value	Not null, valid phone format	No	matchWithAvailableJob	string	1 multiple	No	ResumeFile	Resume File, JobType, Location	JobID	string
	User Email	string	1 Single Value	1 Single Value	valid email format, not null	No	JobRecommendationJobs	string	1 multiple	No	JobRecommendationJobs	JobRecommendationJobs	JobRecommendation	string
34. uses a banking app to transfer funds with currency conversion	Resume File	PDF	1 Single Value	1 Single Value	Not null, valid format and size	Yes	JobRecommendationJob	string	1 multiple	No				
	Job Type	string	1 Single Value	1 Single Value	within choice, not null	No								
35. completes a full patient intake process online before a hospital visit	Location	string	1 Single Value	1 Single Value	within choice, not null	No								
	User Details	string / PDF	multiple	List	Not null, valid format and size	No	Total Tax	double	1 multiple	No	UserDetailsValidation	UserDetails	ValidFlag	bool
36. User sets a reminder on a smartphone	Income Details	string / PDF	multiple	List	Not null, valid format and size	Yes					IncomeDetailsValidation	IncomeDetails	ValidFlag	bool
	Tax Documents	string / PDF	multiple	List	Not null, valid format and size	Yes					TaxDocumentsValidation	TaxDocuments	ValidFlag	bool
37. User reports a bug on a project management platform	Bank Details	string / PDF	multiple	List	Not null, valid format and size	No					BankDetailsValidation	BankDetails	ValidFlag	bool
	Temperature	float	1 Single Value	1 Single Value	not null, in range of (61 F to 90 F) / (16 C - 32 C)	No	Home Temperature	string	1 multiple	No	CalculateTax	IncomeDetails, TaxDocuments	TotalTax	double
38. uploads a resume and receives job recommendations	Date Time	Date&Time	1 Single Value	1 Single Value	valid date and time format	No					Date Time Validation	Date Time	ValidFlag	bool
	Mode	string	1 Single Value	1 Single Value	not null, within choice	No					SelectOrValidation	Temperature, Date Time, Mode, Fan	ValidFlag	string
39. submits tax forms online and gets real-time calculations	Fan	bool	1 Single Value	1 Single Value	not null, within choice	No					StartWorking	Temperature, Date Time, Mode, Fan	ValidFlag	bool
	UploadFile	PDF	multiple	List	not null, valid format	Yes	Report	string	1 multiple	No	FileFormatValidation	UploadFile	ValidFlag	bool
40. uses a smart thermostat to schedule home temperature	UserDetails	string	multiple	Single Value	not null, valid details	No	WorkoutRoutine	string	1 multiple	No	UserDetailsValidation	UserDetails	ValidFlag	bool
	FitnessData	float	multiple	Single Value	not null, valid details	No					FitnessDataValidation	FitnessData	ValidFlag	bool
41. trains a custom AI model on uploaded data	UserEmail	string	1 single value	1 single value	valid email format, not null	No	BookingReportID	string	1 multiple	No	GenerateReport	Report	ValidFlag	bool
	UserPassword	string	1 single value	1 single value	valid email format, not null	No					GenerateReport	Report	ValidFlag	bool
42. tracks fitness data and gets personalized workout suggestions	TravelDate/Time	Date/Time	1 single value	1 single value	valid date and time format, must be in future	No					GenerateReport	Report	ValidFlag	bool
	Destination	string	1 single value	1 single value	valid date and time format, must be in future	No					GenerateReport	Report	ValidFlag	bool
43. reserves a hotel room, flights, and car rental in one session	SelectFlight	string	1 single value	1 single value	valid date and time format, must be in future	No					GenerateReport	Report	ValidFlag	bool
	SelectHotel	string	1 single value	1 single value	valid date and time format, must be in future	No					GenerateReport	Report	ValidFlag	bool
44. uses a banking app to transfer funds with currency conversion	NumberOfRooms	int	1 single value	1 single value	valid date and time format, must be in future	No					GenerateReport	Report	ValidFlag	bool
	Nights	int	1 single value	1 single value	valid date and time format, must be in future	No					GenerateReport	Report	ValidFlag	bool
45. completes a full patient intake process online before a hospital visit	CarType	string	1 single value	1 single value	valid date and time format, must be in future	No					GenerateReport	Report	ValidFlag	bool
	DaysOfRent	int	1 single value	1 single value	valid date and time format, must be in future	No					GenerateReport	Report	ValidFlag	bool
46. User sets a reminder on a smartphone	Amount	double	1 single value	1 single value	valid date and time format, must be in future	No					GenerateReport	Report	ValidFlag	bool
	FromCurrency	string	1 single value	1 single value	valid date and time format, must be in future	No					GenerateReport	Report	ValidFlag	bool
47. User reports a bug on a project management platform	ToCurrency	string	1 single value	1 single value	valid date and time format, must be in future	No					GenerateReport	Report	ValidFlag	bool
	PatientDetails	string	1 single value	1 single value	valid date and time format, must be in future	No					GenerateReport	Report	ValidFlag	bool
48. uploads a resume and receives job recommendations	PatientAppointment	Date/Time	1 single value	1 single value	valid date and time format, must be in future	No					GenerateReport	Report	ValidFlag	bool