	Inputs						Outputs			Process	Task (function)			
use cases	Inputs name	Type	Count	Operation method (	validation	conversion	Outputs	Type	Count	Process (Single task or multi tasks)	Task Name	Input	output Name	output Type
1. checks account balance	Card Number	String	1	single value	16 char, not null, numbers only	No	amount	double	1	multiple	checkCardValidity	Card Number and password	ValidFlag	bool
	Password	String	1	single value	4 char ,not null , numbers only	No					CheckBalance	Card Number	amount	double
	option	char	1	single value	within choices	No								
2. withdraws money	Card Number	String	1	single value	16 char, not null, numbers only	No	amountOfWithdraws	double	1	multiple	checkCardValidity	Card Number and password	ValidFlag	bool
	Password	String	1	single value	4 char ,not null , numbers only	No					checkBalance	Card Number	amount	double
	option	char	1	single value	within choices	No					withdrawMoney	amount	amountOfWithdraws	double
	amountOfWithdraws	double	1	single value	not null , number only	double								
3. logs into email account	email	String	1	singal value	valid email format , not null , use A-Z a-z and numbers	No	ViewMails	string	1	multiple	chechEmailValidity	Email and password	ValidFlog	bool
	Password	String	1	singal value	contain of numbers, charectors , symbols and upper&Lower case char	No					MailsAvailability	choice	viewMails	String
	option	char	1	single value	within choices	No								
4. uploads a photo to a social media profile	email / userName	string	1	single value	valid email format , not null , use A-Z a-z and numbers	No	UplodePhoto	string	1	multiple	chechEmailValidity	Email and password	ValidFlog	bool
	cardPassword	string	1	single value	contain of numbers, charectors , symbols and upper&Lower case char	No					UplodePhoto	Photo	Photo	String
	Photo	jpg	1	single value	size of photo , not null ,	Yes - String								
5. plays a music file	music	soundFile	1	single value	valid sound file	Yes - String	sound	string	1	multiple	checkFileType	music	ValidFlog	bool
											openSound	music	soundFile	String
6. sets a reminder	Time	DateTime	1	single value	valid time format	no	alarm	string	1	multiple	checkTime	Time	ValidFlog	bool
											openAlarm	Time	soundFile	String
7. books a movie ticket online	email	string	1	single value	valid email format , not null , use A-Z a-z and numbers	No	totalAmount	double	1	multiple	checkCardValidity	Card Number and password	ValidFlag	bool
	emailPassword	string	1	single value	contain of numbers, charectors , symbols and upper&Lower case char	No	BookedTicket	string	1		viewTotalAmount	numberOfTicket	totalAmount	double
	option (Choose Movie)	string	1	single value	within choice	No					checkAvilabilityTicket	numberOfTicket	ValidFlag	bool
	numberOfTicket	int	1	single value	not null , numbers	Yes - int					viewBookedTicket	numberOfTicket / totalAmount	bookedTicket	string
	cardNumber	string	1	single value	16 char, not null, numbers only	No								
	cardPassword	string	1	single value	4 char ,not null , numbers only	No								
8. searches for a recipe on a cooking app	recipeName	string	1	single value	not null , charectors	No	recipe	string	1	multiple	checkAvilablityrecipe	recipeName	ValidFlag	bool
											viewRecipe	recipeName	recipe	string
9. uploads multiple images to generate a slideshow video	images	img	multiple	list	size of photo , not null	Yes - string	vidoe	string	1	multiple	validateImageTypeAndSize	Images	images	string
	TransitionStyle	String	1	Single Value	Must be within available styles	No					loadImages	Images	imagesList	list
	DurationPerSlide	int	1	Single Value	> 0	No					generateVidoe	ImagesList,durationPerSlide, TransitionStyle	vidoe file	string
	OutputFormat	vedioFile	1	Single Value	vedio file	No								
10. places an online food delivery order	userEmail	string	1	Single Value	valid email format , not null , use A-Z a-z and numbers	No	totalAmount	double	1	multiple	validateUserIdAndPassword	userEmail and userPassword	validFlag	bool
	userPassword	string	1	Single Value	contain of numbers and characters, not null	No	orderId	int / string			validateResurentId	resurentId	validFlag	bool
	resturentId	string	1	Single Value	should be selected	No					validateDiscountCode	discountCode	validFlag	bool
	selectedItems	string / int	multiple	list	not empty	Yes - string / int					calculateFoodOrder	selectedItems and discountCode	totalAmount	duoble
	DelivaryAddress	string	1	Single Value	not empty	No					createFoodOrder	selectedItems and userEmail, resturentId,discountCode	orderId	int / string
	discountCode	string	0 or 1	multiple Value	optinal	No					NotifyResturentAndUser	resturentId , userEmail ,orderId	validFlag	bool
	paymentMethod	string	1	Single Value	optinal	No								
	cardNumber	string	1	Single Value	16 char, not null, numbers only	No								
	CardPassword	string	1	Single Value	4 char ,not null , numbers only	No								
11. User schedules an appointment with a doctor through a health portal	User ID	string	1	Single Value	Not null, must be a registered user	No	appointmentId	string	1	multiple	checkAvailabilityOfDoctor	doctorId , appointmentDatetime	validFlag	bool
	Doctor ID	string	1	Single Value	Not null , must be available in system	No	notificationOfAppointment	string	1		bookAppointment	appointmentDatetime , doctorId , userId ,resonsOdVisit	appointmentId	string
	appointmentDatetime	date	1	Single Value	The date cannot be before today date	Yes - DateTime					sendAppointmentConfirmation	docorId , userId , contentNumber	appointmentId , notificationOfAppointment	string
	reasonForVisit	string	1	Single Value	Not null, must be reasonable length	No								
	ContactNumber	string	1	Single Value	contains of 8 numbers starting with 9 or 7	No								

	Inputs						Outputs			Process	Task (function)			
use cases	Inputs name	Type	Count	Operation method (	validation	conversion	Outputs	Type	Count	Process (Single task or multi tasks)	Task Name	Input	output Name	output Type
12. User creates an event and invites friends on a calendar app	userId	string	1	Single Value	Not null, must be a registered user	No	eventID	string	multiple	multiple	validateEventData	userId, eventTitle, eventDate, startTime, endTime	validFlag	bool
	eventTitle	string	1	Single Value	Not null, max length limit	No	inviteStatus	bool	1		createCalendarEvent	userId, eventTitle,eventDate, startTime,endTime,location, description	eventID	string
	eventDate	date	1	Single Value	The date cannot be before today date	Yes - DateTime					sendEventInvites	eventID ,inviteeEmails	inviteStatus	bool
	startTime	time	1	Single Value	valid time format	Yes - DateTime								
	endTime	time	1	Single Value	after start time	Yes - DateTime								
	location	string	1	Single Value	not null , charactors	No								
	inviteeEmails	list	multiple	List	valid email format	No								
	description	string	multiple	Multiple Value / list	max character limit	No								
13. User applies for a loan via online banking	userId	String	1	Single Value	not null, must be a registered user	No	loanDetails	string	multiple	multiple	validateLoanInputs	userId, loanType, loanAmount, incomeProofDocument, contactNumber	validFlag	bool
	loanType	String	1	Single Value	type of loan (Home, Personal)	No	loanApplicationID	string	1		checkLoanEligibility	loanAmount, tenureInMonths, employmentStatus, incomeProofDocument	LoanDetails	string
	loanAmount	double	1	Single Value	> 0 and within allowable limits	No	notificationOfLoanConfirmation	bool	1		submitLoanApplication	userId , incomeProofDocument, loneDetails, contactNumber	loanApplicationID	string
	tenureInMonths	int	1	Single Value	allowed range (6 - 240 months)	No					sendLoanConfirmation	userId , loanDetails , loanApplicationID	notificationOfLoanConfirmation	bool
	incomeProofDocument	PDF/Image	1	Single Value	not null, valid format and size	Yes - String								
	employmentStatus	String	1	Single Value	allowed statuses	No								
	contactNumber	String	1	Single Value	valid phone format	No								
14. User registers and enrolls in a university course	studentName	string	1	Single Value	Not null, max length limit	No	courseID	string	1	multiple	validateEmailAndPassword	studentName, studentPassword, studentEmail	validFlag	bool
	studentPassword	string	1	Single Value	not null, contain of numbers and charactors	No	totalAmount	double	1		checkCourseAvailability	selectedEnrollsCourse	validFlag	bool
	studentEmail	string	1	Single Value	valid email format , not null , use A-Z a-z and numbers	No					calculateTotalAmount	selectedEnrollsCourse, studentName	courseID, totalAmount	string / double
	selectedEnrollsCourse	string	1	Single Value	withen choice	No					payment	studentName, selectedEnrollsCourse , paymentMethod,cardNumber, cardPassword	courseID, totalAmount	string / double
	paymentMethod	string	1	Single Value	optinal	No								
	cardNumber	string	1	Single Value	16 char, not null, numbers only	No								
	cardPassword	string	1	Single Value	4 char ,not null , numbers only	No								
15. customizes and purchases a T-shirt from an online store	userId	string	1	Single Value	not null, must be a registered user	No	totalAmount	double	1	multiple	validateTshirtOrder	T_shirtSize ,T_shirtColor ,quantity	validFlag	bool
	T_shirtSize	int / string	1	Single Value	withen choice , should be selected	No	orderID	string	1		calculateTotalAmount	quantity	totalAmount	double
	T_shirtColor	string	1	Single Value	withen choice , should be selected	No					payment	orderID ,totalAmount, paymentMethod,cardNumber, cardPassword , payment Id, address	orderID	string
	quantity	int	1	Single Value	numbers , not null , should be selected	yes - int					confirmOrder	orderID , userId	validFlag	string
	paymentMethod	string	1	Single Value	within choice	No								
	cardNumber	string	1	Single Value	16 char, not null, numbers only	No								
	cardPassword	string	1	Single Value	4 char ,not null , numbers only	No								
	Address	string	1	Single Value	not empty	No								
16. installs software using a package manager	selectPackageName	string	1	Single Value	not null ,withen choice	No	packageID	string	1	multiple	checkAvailabilityPackageName&Version	selectPackageName, selectPachageVersion, selectSystemRequairement	validFlag	bool
	selectPachageVersion	string	1	Single Value	not null ,withen choice	No					inastallPackage	selectPackageName, selectPachageVersion, selectSystemRequairement	packageID	string
	selectSystemRequairement	string	1	Single Value	not null ,withen choice	No					confirmInastallation	selectPackageName , packageID	validFlag	bool
17. reports a bug on a project management platform	userId	string	1	Single Value	not null, must be a registered user	No	reportID	string	1	multiple	validateBugDetails	projectId, bugTitle, bugDescription	validFlag	bool
	projectId	string	1	Single Value	not null	No					validateAttechementFile	bugFileAttachment	validFlag	bool
	bugTitle	string	1	Single Value	not null , max character limit	No					generateBugReport	userId , projectId,bugTitle, bugDescription,bugFileAttachment	reportID	string
	bugDescription	string	1	Single Value	not null , max character limit	No								
	bugFileAttachment	picture / pdf	1	Single Value	not null, valid format and size	Yes - String								

use cases	Inputs						Outputs			Process	Task (function)			
	Inputs name	Type	Count	Operation method (	validation	conversion	Outputs	Type	Count	Process (Single task or multi tasks)	Task Name	Input	output Name	output Type
18. uploads a resume and receives job recommendations	userName	string	1	Single Value	not null ,max charactor limit	No	RecommendationJobID	string	1	multiple	validateResume	userName, userContactNumber, userEmail, resumeFile	validFlag	bool
	userContactNumber	string	1	Single Value	not null , valid phone format	No					matchWithAvailableJob	resumeFile , jobType , Location	jobID	string
	userEmail	string	1	Single Value	valid email format , not null , use A-Z a-z and numbers	No					veiwRecommendationJobs	jobType , Location	TopRecommendationJobID	string
	resumeFile	pdf File	1	Single Value	not null, valid format and size	Yes - String					sendTopRecommendationJob	TopRecommendationJobID	RecommendationJobID	string
	jobType (partTime / FullTime)	string	1	Single Value	not null ,withen choice	No								
	Location	string	1	Single Value	not null ,withen choice	No								
19. submits tax forms online and gets real-time calculations	userDetails	string / pdf	multiple	Multiple Value - List	not null, valid format and size	No	totalTax	double	1	multiple	validateUserDetails	userDetails	validFlag	bool
	incomeDetails	string / pdf	multiple	Multiple Value - List	not null, valid format and size	Yes - double					validateIncomeDetails	incomeDetails	validFlag	bool
	texDocuments	string / pdf	multiple	Multiple Value - List	not null, valid format and size	Yes - double					validateTexDocuments	texDocuments	validFlag	bool
	bankDetails	string / pdf	multiple	Multiple Value - List	not null, valid format and size	No					validateBankDetails	bankDetails	validFlag	bool
											calculateTax	incomeDetails, texDocuments	totalTax	double
20. uses a smart thermostat to schedule home temperature	temperature	float	1	Single Value	not null , in range of (61 F to 90 F) -- (16 C - 32 C)	No	homeTemperature	string	1	multiple	validateDateTime	schedualDateTime	validFlag	bool
	schedualDateTime	DateTime	1	Single Value	valid date and time format	No					validateSelection	temperature, schedualDateTime, mode ,Fan	validFlag	bool
	mode (heat , cool ,Auto)	string	1	Single Value	not null ,withen choice	No					startWorking	temperature, schedualDateTime, mode ,Fan	homeTemperature	string
	Fan	bool	1	Single Value	not null ,withen choice	No								
21. trains a custom AI model on uploaded data	uploadFile	pdf	multiple	Multiple Value - List	not null ,valid format	Yes - String	report	string	1	multiple	validateFileFormate	uploadFile	validFlag	bool
											generateReport	uploadFile	report	string
22. tracks fitness data and gets personalized workout suggestions	userDetails	string	multiple	Single Value	not null , valid details	No	workoutSuggestions	string	1	multiple	validateUserDetails	userDetails	validFlag	bool
	fitnessData	float	multiple	Single Value	not null , valid details	float					validateFitnessData	fitnessData	validFlag	bool
											generateWorkoutSuggestions	userDetails, fitnessData	workoutSuggestions	string
23. reserves a hotel room, flights, and car rental in one session	userEmail	string	1	single value	valid email format , not null , use A-Z a-z and numbers	No	bookingReportID	string	1	multiple	validateUserEmail&Password	userEmail, userPassword	validFlag	bool
	userPassword	string	1	single value	contain of numbers, charectors , symbols and upper&Lower case char	No					validateFlightDeatils	travelDateTime, destnations, selectFlight	validFlag	bool
	travelDateTime	DateTime	1	Single Value	valid date and time format	No					validateHotelDetails	selectHotel , numOfRooms ,naights	validFlag	bool
	destnations	string	1	Single Value	not null , within choice	No					validateCarDetails	carType ,carName, daysOfRent	validFlag	bool
	selectFlight	string	1	Single Value	not null , within choice	No					bookingFlight	userEmail,travelDateTime, destnations, selectFlight	bookingFlightID	string
	selectHotel	string	1	Single Value	not null , within choice	No					bookingHotel	userEmail, selectHotel , numOfRooms ,naights	bookingHotelID	string
	numOfRooms	int	1	Single Value	> 0 , not nul	Yes - Int					bookingCar	userEmail, carType ,carName, daysOfRent	bookingCarID	string
	naights	int	1	Single Value	> 0 , not nul	Yes - Int					generateBookingReport	bookingFlightID, bookingHotelID, bookingCarID	bookingReportID	string
	carType	string	1	Single Value	not null , within choice	No								
	carName	string	1	Single Value	not null , within choice	No								
	daysOfRent	int	1	Single Value	> 0 , not nul	Yes - Int								
24. uses a banking app to transfer funds with currency conversion	amount	double	1	Single Value	> 0 , not nul	Yes - Double	convertedAmount	double	1	single	calculateConvertedAmount	amount, fromCurrency, ToCurrency	convertedAmount	double
	fromCurrency	string	1	Single Value	not null , within choice	No								
	ToCurrency	string	1	Single Value	not null , within choice	No								
25. completes a full patient intake process online before a hospital visit	patientDetails	string	1	Single Value	not null , valid details	No	patientAppointmentDetails	string	1	single	checkpatientDetails&patientAppointment	patientDetails, patientAppointment	patientAppointmentDetails	string
	patientAppointment	DateTime	1	Single Value	valid date and time format	No								