	NAME : KAHAK PENDSE
-	DISB-54. MAD-ASSIGNMENT-1.
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	Assignment-1.
010	Explain the key features and advantages of using
	Charles Con makila and device appropriet
	A Ginala cade hace: Develop for 105 and andioid
45.32 1.17	a unifide codebase, reducing development time
4.1	and efforts
	Bush colored : pool time code Changes without
	reglarting the & run process engineing acceptant
•	efficiency 200
3/81	(i) Rich widget library: Pre-designed, costomi 2001
	wenders for consistant and visually appearing
10000	User interface.
31-	W High performance: Flutter compiles to native
	DON ande & user the skia graphics gengine,
	onguring smooth performance.
107	(1) Cost effective: Reduce development cost with single
	and have & efficient development process
196	man southeast by some sist attacked addresses com
Ь	Discuss how the flutter framework differs from
1.	traditional approaches & why it has gained popularity
	in the development community
	Dort language: Flutter employs dart, a language
9 11-	apprific to framework, different from platform
1	specific. languages used to in traditional approach.
milion	@ Efficient and Time soving: Flutter reduces
	development time for 109 & android by enabaling
	Single code base.
	A160 reduce development time by implementing code
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	reusability.
-	(ii) Consistant Ul Across the platforms: Flutter ensures
	a uniform user interface on 10s & android.
1 frem	a united to the second of the
Q.2.0	Describe the concept of the widget tree in flutter
	Explain how widger composition is used to
	Complex User interface.
mar	To flutter the widget tree 18 4 hierarchiai
	representation of user interface components where
3150	each noise corresponds to a widget defining
T ville	structure & appearance of the of wager serve
	as a fundamental building block, runging from
Byffr	basic elements like buttons & text to move to
	complex structure and all son a share Man
	Wedget Composition is a core concept in flutter,
	allowing development to build eintricate user
	interfaces through the assembly of simple &
	reusable widgets. This process involves combinis
DITTE	ng nesting & configuring widgets to create module
Frederigan	Components Developers Start with foundational
	widgets & progressively compose them into
Bon	more sophisticated structures.
TO IT	The nierarchial orrangement of unidaets in the tree -
. Honor	mirrors the layout & composition of the UI
200	widgets can be nosted, allowing for the creation -
will do no	of complex interfaces.
	Sunta tode house -
has pro	Panelina ve sovié transferos sorbas para
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>			
(9.39)	Discuss the importance of state	management in	
	application	2011000000	
134 77	Dynamic user interface: state	management is	
51 100	Critical for handling dynamic	changes in	
0	in user interfaces, wether its u	potating us	
14571.71	elements in response to e use	er Interactions	
730	as reflecting changes in data,	effective	
0101	Statuctre management ensure	1 that the UI	
	remains responsive & refrects the	carrent application	
AUTS D	on state		
prito	· Code reusability : well monged e	state enables the	
	greation of modular & reusable	components. In	
	flutter, where widgets can be	composed and	
ENTURYO	reased, effective state management ensures that		
2000	these components can be easily integrated into		
	different parts of application, promoting a		
1080	PRY codebase	n xala ana	
100	· Cross screen communication : state 1	nonagement	
-	faciliale communication between	n different Screens	
	or components of an application, a	llowing them	
	to share & synchronize data.		
stion	manife preisospetre la casera a	il copiers to a.s.	
b	Compare and contrast the differer	It state monage -	
	ment opproaches awallable in p	lutter such as	
	set state, provider & riverpod.	provide ecentric	
2000	s Where each apporach is suitab	led books	
-	O set state: The setstate meth	ni-blud a el bo	
	mechanism in flutter for mangi	ng the Internal	
	,	1	
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		(1 8.D
90 4	State of stateful widget	Commall to
	Scenarios: setstate is suitable	changes
- 4	moderally complex 018 where	door & don't
	are localized to specific wi	CAEL OF
100	to be shared accross the enti	re application
1200011	@ Provider: The provider packag	Solution
	& light weigh State manager	ment porceitor
10	in Autrer It follows the pro	vider parter
benings/	Ris base to on inherited wid	get managing state
	Scenarios: Provider is suitable f	t tree greating
1181- 291	within specific parts of widge	a they creating
10 T 2	a scoped and efficient solution.	and odala
In last	@ Riverpod : Riverpod 13 an adva	nceo grate
41134	monagement library and a st	Color do provider
stal !	It provides a broader set of fee	stures & its design.
1	ed to be more modular & te	Stable Car lama
	complex application: Riverpod 16	surable for large
	& complex application where mo	
1 333	L + estable State management	approch 15
003.1	nee ded	
A ~		
0.4.0	Explain the process of integration flutter application. Discuss th	e honifile of
	using fire base as a backend	
	Ocreate firebase & Project:	91/01/01/02
	Stort by creating a project on	
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1	Autter project	ine me en en en
	Title project	
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b)	Provide examples of commonly used widgets and their
	roles in creating a widget tree.
-	There are following commonly used widget in flutter
	and their roles in widget tree:
	@ Container Widgets:
	Container widget is a versatile container that can
	hold & decorate other widgets
	Eg, ('I mad!') trar : 91414 ) 3117 1211
	dort: Memotily exer collect gall told
	Widget build (Build Context Context) {
	return container C
	Child: Text ( Hello, world ),
	);
	3. Leading to the second to th
100	Och and and any to rout ago add times board
	(b) Column & row widgets:
	These widgets aganize child widgets vertically (column)
	or horizontally (row)
	dort man man
	widget build (Build Context context)
	return Column C
BEE WAS	Children: [
	Text ( ! Item 1'), Hello How are you.
	Text ('Item2'),
	],
	);
	3.
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40.44	Otistview widgets:	0 07 mol 40 1917	10% 9791 4171 41	
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	dart	100 100 100 100 100	The second second	
	Widget build ( Be	uld context Cor	lext) {	
mo	retubun ListView	560 00 1 4000	-1 191710710	
	Children E	en 1916 91/163	.1.	
	List Pile (tit	le: Text ('Item	1)	0
	ListTile ( +i+10	e: Text ('Items	2');	
	7, 3/4/23/200	Transfer of the section		
	1)	Trocas officials 183		
	5.	10 41 (119)	.,	
	D AnoBar Inidade:			
	PappBar Widgets: Represents the app	bar at the tan	of the acreer	
		ator the mod		
Lamilar	dayt les elephon his			
	widget build ( Bui			4
	return Scaffold (		. 69	
	OppBar : AppBar		tych	
	title Text ('M	y App'), 99 614	of Ophie	
	),		) ments	
	body!		with 1 do	
	); we no wolf o	Water Compati	1 575T	
	7.	"Hema"	fyg	
			The state of the s	
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act.	In your flutter project,	add the n	ecessary de	ependen-
2 300	cies by updating pu	honec vami	'cile:	
	yamı:	aster 9		
	dependencies:	milasi	VARIAGE P	
195	firebose core : 1 Lete	No igravete	and and 3	
	Firebase out : " F	etest_ versi	on The	
	Cloud Gireston: 1 Le	test version	1	
			b-part sale	
	Run flutter pub get to	fetch th	e dependen	cies.
	Initialize firebase in	your flutte	r opp by	
	ralling firebose initio	lize APP ()	DETECTED TO	
	in the main () method	THE CHISTO	11,111	
	dart : Frallem Potter at	apin atun	11- 22	
1 222	Talaren sane , mos siamo	chai caral	Circhale Co	re .dort':
	Import package: Fir	ep as-core	Paris II	,,,,,
	void main () asyncf	2 1 1 1 1 2 1 2 1 2 1 1 1 1 1 1 1 1 1 1	utu3	
0	widgets flutter Bind	ina ensur	einitializa	ed C):
19.00	and Circhalp initio	Lize App ()	,	- )
	runapp (Myappo);	anot' is	mon 23	10000
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	Use firebase service 1	ike authen	tication, fir	restone
	in Clutter app by in	porting +	he releven	) [
000	and capes and initial	1zing the	n using r	LIEDOR
	project credentials	dayt :	2000	
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	import ' poctage firebase auth/firebase auth-dort!
m 133	import pockage floud cirestone/ (loud firestone adm)
	import ' poctage : firebase - outh firebase and firestone dast; import 'poctage : cloud_firestone/ (loud_firestone dast)
	10 To \$ 11.7 ch
	11 Authentication
	explain outh a fire base feet,
	ucor a more auth. content
	The second section of the second section is the second section of the second section is the second section of the second section is the second section of the second section s
	that I de Characteria
	Firebase firestone firestone = firebase instance;
	· Authentication & database operations:
	11 authentication
	11 authentication
	Future (void > signing) async {
	a woit auth. Sign In with Email AND Password (
	email: 'user@ example.com, password: "Pass");
10h. 9	Topost parid series live of core freedre
	11 firestore
	future cypids adduser () 5
	return finestone collection ( " user) . doc(userlo")
	· set image seinitial aladayit times
	(g name': 'John Doe', age 30});
	3
Saletan.	Benifits of Using firebase as a backend:
4/	· Firebase allows development to manage &
ndsn14	persise user authentication states offering
TO STATE OF THE PARTY OF THE PA	seamless user experience
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	· Fireball analytic	inciahts linto
	· Firebase analytics provides i	reporting crosh
	for the better app slability and	De l'farmance
		Ann Galler
- 1	· It integrates seamlessly with	Auther five
	base effects a generes tree	Hre & Populdia
	stran range of SDK, and plu	igins that
	Simply backend of intrastr	uture baled
•	on demand.	- 492.0+nl
6)	Highlight the firebase service	s commonly used
	in Auther development and poor	
	overview of how data synch m	
	achieved.	
-	O Populdes secure user outhent	ication using
	vorious methods such as email,	/ Password .
	google sign-in & many more.	
	@ A non-sol, real time databa	le that allows
	for seamless data synchronization	n access
	device. It suppossts complex o	veres, offline
	data access & real-time upd	ate.
	@ An older, J son-based date	ibase offering
	real-time synchronization. Its	suitable for
	application orequiring a simp	ole JSON
	structure & real time data upda	tes.
	· Server-less Punctions that v	un in response
	to an events triggred by f	ire base feature
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0101	. Cina those achieves real time dara synchro-
0.00	nization through the use of data libraries.
	when data in firestone database the
	a ssociated libraries are notified & UI Is
policy of	automatically updated. This is based on the
	Observer pattern, where the Ul components
h	takes the changes to specific data in
	dataset.
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