WEEK5

- a)Write a C program to simulate the concept of Dining-Philosophers problem.
- b)Write a C program to simulate producer-consumer problem using

	091-1-23
	wind a coprogram to the
	Write a c program to stimulate the concept of
	#include States. ht
	#include (semapluse . 4 }
	IF include < pthread. 44
	# define N 5
1.1.	# differ HUNGRY !
10	# dfin EATENGO
10	# define THENKENG 2
	# define THENKING 2 Et define LEFT (phoon 14) / H
	# define REGUT (plumon +1)/.N (THING)
	int state [N];
	int state [N]; (salum 2) tog so so sint plant [N] = {0, 1, 2, 3, 4}
	Sem- & mater; and braw substalled blav
	sem to 8 TN);
	void test (Fet phoun) & (1) dealer
	of Lotate [pinum] =- HONGRY
	E & shat [LEFT] I = EATING ()
	ES SLATE [RIGHT] 1= EATING)
	State [phonon] = EATENS) { 10 }
	State [plinum] = EATENG
	slup (2);
	penit (" Philosopher of a takes fork 1.d and 1.d
	10") planes +1; LEFT +1, planes +1);
	11 Planum +1) Certification (1)
	Sem. pot (S [phoum); 3 3
	Sem. port (4 s craims))
	rold form - form our punum
	1 1 1 2
	Sem_ world (& neutro);
	State [plinum] = HUNGEY;
	party ("plubsopher 1.d a HUNGRY 1. 10", phuen + 1)5
	test Cplinum 3;
	Sen-pol- (5 mutil)

Sen. wort (q styling) 2 steep [1]	The same of the sa
Sen. wort (8 st glams)	
sleep [1]	4232
3	3 pours
void put-fork (int phrum)	
void put-fork (int plum)	for (1=0
	pHimad
etal [d. T.] = THENKING;)
" Carol - 1. Carolle C. F. C. C.	
down in physical 1 ter + 1 physical and county ("blatownship of a 30 THANKING Is"	Output:
print! ("plaloupher 1. of is THONKENG In"	01
printy ("plabougher 1. d & THINKING In "phonon of text (LEFF);	philosop
	philosop
Sem. port (5 multis); Void philosopher (Void * am.)	philosop
3	plulong
void philosopher (void * num)	ورود ما مام
9	
which (1) &	philory
which (1) & (dund to) the bound steep (1) interpolation of the last of the cleep (1) interpolation of the last of the cleep (1) interpolation of the last of the cleep (1) interpolation	philosop
of Commission and Commission	plutosoph
take John (1) is a little of the state of th	plubsop
Sleep (0)	philosop
but 28 (22) Common del	philosoph
5 3 - tole (1)) 10 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	Plutory
	pludoson
pthreed: + thread id [N]: Sem_int (g multar, p. 1)	philosog
all a state of the	
thread WIND.	
Sem_int (multa p 1) For (i=0; (sn; i++) Sem_int (subject to 1); start (subject to 1);	
For (1=0) (50: 144)	
Sem , in ((5 (1), 0, 0); for (i = 0; 1 < M) [+ + 1) Sem ? mit (8 3 [1), 0, 0);	
Sem? 131 (8 072)	
Sem: not (8 (1) (0,0))	
for (1=0) 1< N) 1+4) {	
pthread create (2 thread rd [i] NULL philosophi	
Nous missight	BERLIN FEB.

Sen-wort (3 styling) 2: sleep [1])	
Sen-wort (& 3/ plane)+	
sleep [13)	400
void put-joh (int plum)	3 period
void put-fold (int plum)	
	for (1=c pHmed
sen_wait (2 mutex);	primed
state [plinum] = THENKING;	
point ("philosopher . I.d putting fork . I.d and	00-1:
Coun III phyan 1, L. , phys.	aufout:
prints ("plalougher 1. d & THENKENG In "phone test (LEFF);	philosop
test (LEFF); M.	philosop
L. L (250.15):	philosox
Sem. port (& muter)	pluling
Sem. port (\(\gamma\)	phong
Company (Void num	philo sop
E Contract	philory
which (1) &	philosop
Shirth (1) & Change to the transcript of the tra	plutosopl
cleep (1) ; marks -1 (2021) del h	philosop
That I all I	dilosop
	philosoph
5 3 tola (1)	plutony
5'3	philoson
(main ()	plailosa
7 1kt 1	
p thread + thread - id [N]?	
Por (i=0; (4 5(1), 0,0);	
Por (i=0: (i=0: 1)	
Sem, int (9 5(1), 0,0);	
to (1=0:1), 0,0);	
Co (it+1)	
Sem 2 (2 5 (1) (0,0))	
pthonas 1 + 1)	
- Create (& thread	
ptimud (2 S[i), 0, 0); ptimud (2 thread rd[i) Nous philosophi	
puorif	

"plutongher 7.d & throng 10", i+1); for (1=0; i <N; i+1)

pthread your (thread-id (i); NULL) 1.0 is play and [hear- pure] [MAN, Recurso] philosopher 1 & thinking & (and) exchange philosophe 3 & thinking & marken box philosylve 4 is thinking pholosophy & a HUNGEY and all all ") 1 & HONGRY philosophe 4 4 HUNGRY philosophy 5 & HUNGRY 5 takes fork 4 and 5 philosophe 5 % EATENG 3 & HUNGRY I takes folk & and 3) philosophy 3, is EATENG 5 putting fork 4 and philosophi

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	Lab. 5	
4	Wente a C perogram to sti simulate personer-consumer personer	
	II Claims Centerous	
	Hinclude (stdio. h)	3
	Hinelade Litalib. 47	PN
	(a) 112 and soular distan	1
	That mutix = 1, full=0, empty = 3, X=0;	
	int main ()	
	1 Pet n;	
	void peroducer ();	
	void (prount ();	
	int wort (int);	
	int signal (int);	
	print ("In I. Broducer In D. Consumer In 3. Exit"):	
	while (1)	
	scan ("-1-d", gn); Switch (n)	
	Scen ("·l·d", gn);	
	Switch (n)	
	(an 1: 1) ((mulix == 1) 9, 9, (cmpty 1:=0)) else else	
	peroduce ();	
	elve	
	printy ("Buffer is Lule 11").	
	brook " full!"):	
	can 2: 1 ((mutex==) 25 (full!=0))	
	consumer();	
	elas elas	
	mill (n	
	clec painty (" Buylor is emf5 !!"); Case 3:	
	case 3:	

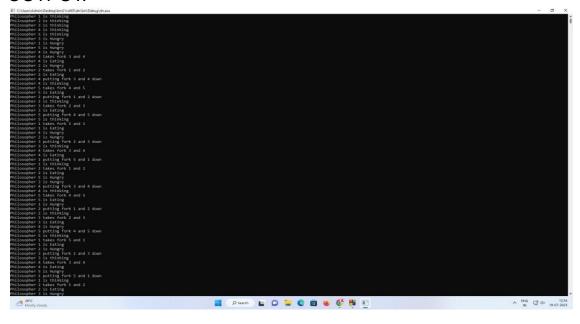
exit (o): break; Put reait (int s) punt ("In Producer produces the item of.d", "2). nutex = signal (mulex); void consumes () mutex = went (mutex); full = wait (Inll); empty = signal (empty);

pecinty ("In Consumer consumer item :/.d", x);

o(--; nentex = signal (mulex);

Outpu	· ·			
		- 160	3,7107.9	
1. Peroo	neer		Jund	
2. Consu			To y date	Sall Live
3. Exil-	ner	1 6 6 6		and an
		MIRCH S	181 30 11 10	Mill of
Enter	your choice: 1 produces the il produces the il produces the il	33 13 10	(2) 4.5) di	M. H. S
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Enter	ioux choice il	em I	1613	3
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Enler	jour choice: 1	((2	that contract	RID I
Buffer i	full!	MARILL	Land College	1
		and the same of the	() median ()	10
Enter,	pur choice: 2		3	1
Consume	consumes item 3	Cark	m) due - sate ("	- A
Enter ,	our choice: 2	Tank 1	1	AN
		1 1 1 1 1 1	Paper 2 2 P	
		Same	of the said	49
	3-0-13-21 A-11		- 22	10
	4 1 2 1 1	Same parely	Mar) 100	4.
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			The same of the sa	1744
				1
		100	the sel	
	34	OK BO	THE ST WAY	
1100	Many V	1000		
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OUTPUT:



I.Producer
2.Consumer
3.Exit
Enter your choice:1

Producer produces the item 1
Enter your choice:2

Consumer consumes item 1
Enter your choice:2

Buffer is empty!!
Enter your choice:_