

LABORATORY WORK BOOK

Name of the Student: N. Ravi chandrika							Roll Number							
Clas	s	CSD-B Semester	mord	Semeste	<u> </u>	a	3	9	5	I A	6	7	8 3	
Cou	rse Cod	e ACSONO Course	e Name :C	ومطها ور	ratory			_		ل		-	n9 7.1	
						()(2.)	teer)	Facı	ulty IE	91	11	02 (1	
Exe	cise Nu	mber :5	Week	Number :.	5			·	,Dat	e :		rais		
		EXERCISE NAME					4.7			Program Execution			Γ	
S.	Exercise Number		Aim/ Preparation	Algorithm	Calculations		s			_	Viva - Voce 4	Total 20		
No.				Performance in the Lab		and Graphs				3				
		D. Lucate anace	4	17 STEEL - 1		17 %		1	3.00				to	
1	5.1	futuristic space Station	14	ald - 2 15	2	16.	4	ilg	7 0	4	-57	·	14	
2	5.2	CentalAI	li lesala		i i ganc	ŧψ.	C)·	f.9 car	48		3	19	
			I their Lyny	: 10000.15	5 5 1.52		el d		nour	}			20	
3	5.3	ActroCentral	4	2	2	4	4	4.	67 1	4		4	10	
4	5.4	del IA	ایا	9_	9				t	!		4	20	
5		No. 4- 1 11-1-24-7		.,,		30(3		Į.	- 8	edilla. Ess	,	1.	20	
	5.5	Medicah Hospital	4	-0.59_	120	8-7	4	-	There	4		4	40	
6		A self fraugosi o	As I was	金雪	HYTY	3.7	2), 3	-	231).	31 7 3	7	13.		
7		The second		15.	5 · '					-Ei.	1.4			
8		*	1,3		ingsenty	# T	14	ij	M (V))OI.) t ₃		1	
				<u> </u>	Carlo Ma		ė.	ं	SED K	אַנוֹנִי	F (1.44.13		
9		State of the state of	Lesti.	300,0	is, and	Fil	1,1		. 7	-1-1		!:) 	7.8	
10	1 1 52	while one from	ron.	7312 1g	nhijai	1 1	9). N. W.	-party	301	30 A 4	.17	- otrocy		
11		Willey Stiller	A_{l} . P_{k}	MA = 12	ido (ta	- 1	r Till	72	mia.		100	lav		
12		reservations						- 1						

Ravi Chandika - W Signature of the Student

Signature of the Faculty

along me fectuatelle apar station, the cardinal computer manages memory allocation using the annual fit technique. The memory to divided finto fixed + size blocks and whenever a pregion requests In memory accountion the eightern member for langual available block.

del money-lik-allocation/memory-blocks, polocytam-requests):

atlocations = {}

for program, request size in program-requests . Hemses :

word fil finder = -1 man-block-size = -1

for in range (Lencmemory-Hocks):

ff memory-blocks(1) = = request_size and > man-block_size:

mar-block_size = memory-blocks[i]

worst-lit- Indea = ?

ft worst-lit-indea 1=-1:

allocations [program] = request = si ze

memory-blocks[woust-fit-Index] -= request-size

else:

allocations [programs] = None

return allocations, memory-blocks

memory-blocks = [400, 250, 350, 200, 150]

parogram-requests = & Program A1: 150, 'Program B1: 300, 'Program c1: 200)

allocations, remaining-memory = worst-fit-allocation

for program, allocated - memory in allocation . items():

if allocated - memory is not None;

, print(1" & program allocated fallocated-memory funits of memory!) else:

pront(fofprograms could not be allocated any memory) print ("In Remaining memory in memory Blocks ") for in range (un (memory-blocks)): print(+"Block \$1+13: & memory - Hocker 123 units").

State of the state

rese, frame lie : trans ? " menter

Militainne II , üle

: ICLEDIEN LINGUISM & ELS

output:

Program a allocated 150 Units of memory Program B allocated 300 units g memory Program c allocated 200 units of memory Remaining Memory in Memory Blocks: sould a sported whenever a title

Block 1: FO units

Block 2: 200 units is bare reflection for its assisting when it

Block 3:50 units

Block 4: 200 units

Block 5: 150 units-

Economica () Aim: In a juturistic city where advanced a Historial intelligence systems govern public services, a central AI hub named as the Central AI operates using a sophisticated memory management explem using the best fit configuous memory allocation techni

is society by cossil six of the

35 PP 3 38 P - DOM

Code:

class Memory Block:

dy sinit-(sup, start, size):

sey-start = Start

self-size = 5 ze

self-allocated = False

HERE TO BUSING THE Sey-process-name = None3/16

dy is-free (sey):

return not sey, allocated

return not sey, allocated

dy allocate (sey);

sey, is-free():

sey, allocated = True

sey, allocated = True

sey, process-name = process-name

return True

Return False

dy deallocate (sey);

sey-allocated = false
sey-process-name = None

dy -str-(self):

Status = "Free" is not f" Allocated to & self-process_ name;"

return 1" (start: & self-stort), size: & self-size), status; {status}"

DUNIAL WARDS IN HEREIGH

Manches Latenin

class Memory Managu:

dy first (sey, total-memory):

sey-total-memory = total-memory.

sey. memory - blocks = (Memory Block (0, total-memory))

dy allocate-memory Cself, process-name; sizeds.

too block in self-memory-blocks:

It blockis-freeco and block-size >= size:

if block. size > size:

new-block = Memory Block (Block start + size)

Self memory blocks append (new-block)

block size = Size

block - allocate (poroces-name)

```
orchain true
   Portal (4" Not enough memory to allowle for & process-name?.")
   return Palic
 dy pofint-memory-statuescy):
     point ("In current Memory Sature")
    for block in self- Memory-blocks:
       prinichab
memory-manager = MemoryManager (8000)
ocquests = [
     ("Subsysh", 1500),
                                     - Party promitted and
    ("SubaysB", 1000),
                            Chen In is flash the cirk
    ("Subsysc", 700),
                                  Jakes how for
    ("Subsys.D", 2200),
                                    sale - rate - flat
    ("Subsyse", 100),
                                strill popularity - pro
                         inous a scale of the day - Gran
    ("Subsyst", 1200)
                                    alles but he ph
                          to the section of the second
for requests on requests:
  procestime, size = request
allocated = memory-managey-allocate-memory (process-name,
                                                     Sizo
  it allocated:
                         wall a property of
     memory-manage. print-memory-statusc)
Output: Current Memory Status:
                                     But really
[start:0, 522:1500, Status: Allocated to Subsysta)
[Start: 1500, STZE: 1000, Status: Allocated to Subsyse)
[start: 2500, Size: 700, Status: Allocated to Subsysc)
```

```
(State soon size , 2000, status, Allement to subsyst)
     (Starts mon, stress mon, slateus: Allocated to a ubsyke)
    TStatt: 1900, Strenner, Statem: - Alloopted to Subsyst)
     (State: 7100, Size: 900, States: Free).
5-3 Aim: The busing metropolis where a control command
    centre, Metrocential manager all public-llansportation septems
    vering aharred memory accountion technique to handle the
    memory from various subsystems.
                                                       mild to annual.
    code:
                                          Anari, They proceed the
   class Memory Block:
       dy-init-(sey, dail, size):
                                           dana, "a 40-112 M
         self-start = Start
                                           ( + 144 ) + 14 ( 1 - 1 + 1 + 2 )
         SUL Size = Size
                                          Cheer John of The
         self-allocated = false
                                           Can Valeria
         SELY-baccer-home = None
                                             SI THURSTER
      dy wi-free (SEY):
         1ctum not Self-allocated
                                         selving or of strongs and
     dy allocate (Sell, proces-names:
                                          TOTAL SATE CATTLE
         it self-is-freecos.
                                       The form of some fundaments
            set allocated = True
            sw. process-name = process-name
            return True
                              in the state of the state of
         return False
                                                Francis & Bully
```

dy deallocate(SEU):

self-allocated = Palse sell-process_name = None

dy = ett=(2+1/5+ gratus = "Tree" & not 1" allocated to & colf process porcess return of same & sequenting, since & seij-ener, water & scalary" class MemoryMangers dy -mil-cectf. total-memorius ectl-total- memory = -total-memory self- memory - Hocks = [memory BlackCo, latt-memory) aly allocate memory (self, process-pame, strais: for heach to self-memoral-blocks: 11 block-te- perco and block-stre > stre : il block- Stressize: new-block & Memory Block (block - Start + Size) self-memory-blocks-apprend enew-blocks block-size a Stre block-allocate (procent-name) 1 Churn True Broth H" Not enough memory to allocate for & procen-name 1chun Palac dy porint-memory-status (self): point ("In current memory stateus:") too block in self-memory-blocks: paint Chluck aley point-total-memory -wed (sey). total-used = Sumcblack. Stre for block to self-memory-to print("Intotal memory wed: Stotal-wedz units.")

memory manager = memory Manager (1000) vicquests = [(" maffic Control", 12000, (" PoutePlanning", 800), ("Vechicle Monitoring", 1500), ("Passenger Information", 606), ('Marnierance Logistics", 700) the welfage of the light and the spine of the last of for request in requests: paroces. name, size = request allocated = memory_manager.allocate-memory if allocated; memory-manager. print-memory-statuses memory-manager. porint-total-memory-used() output: Miner - 4000014 of februse 40014 Current Memory Status: [Start: 6, size: 1200, Status: Allogated to TrafficControl] [Start: 1200, Size: 800, Status, Allocated to Route Planning] [Start: 2000, STZE: 100, Status: Allocated to vecticle Monitoring] (Start: 3500, Stre: 600, Status: Allocated to Passenger Information [Start: 4100, Size: 700, Status: Allocated to Maintenance Logistics] [Start: 4200, Size: 200, Status: Free]

Total memory used: 4800 units of 5000 units.

504

19m: In a research institute focused on Al advancements, the AT manages to computational presearchers wing a first -fat contiguous memory allocation technique.

Code:

class Memory Block:

dy nort-(sell, start, stre): ocyostalt = Start sey-size = Size sey-allocated = False Self-process_name = None

dy is-tree (sey): return not sey-allocated

dy allocate (self, procex-names:

it self - is - free ():

self-allocated = True

self-brocer-vame= brocer-vame

return True

return False

dy deallocate (584):

sly-allocated = Falsc

sey. process-name = None

dy -str- (self):

Status = "Free" if not f" Allocated to Eself. process-r return 1" (start: & sey-start), size: & sey-size), State

t. Tity y Apr

Class MemoryManagu:

```
dy -init-(sey, total-memory):
       sely. total-memory = total-memory
       sty. memory-blocks = [memory Block (o, total-memory)]
   dy deallocate-memory (self, process-name, size):
      for block in self-memory-blocks:
        71 block is -free o and block . Stre >= Size:
          if block. Size > Size:
            new-block = memory-block
            scy-memory-blocks-append (new-block)
            block-size = Size
         block-allocate (process-name)
                         between the manner
         1 ctun True
         print (t" Not enough memory to allocate for & process-names.
      return False
   dy print-memory-Status seys:
      print ("In current Memory Status:")
      for block in self-memory-blocks:
         print (block)
  dy print-total-memory-wed Cseys:
       total-wed = sum ( block. size)
       print(f"In Total memory used: ¿total-wed & units.")
memory-manager = Memory Manager (6000)
requests = [
     ("Project B", 1000),
```

(" Agict c', 700), ("Project O", 2000), ("Porgect E", soo), ("Poroject F", 1200)

for requests to requests:

process-name, size = request

allocated = memory-manager. allocate-memory (process-name, size

of the market bull, and

A DEPART OF BUILDING SAFE

E. W. J. police a real of

47 1140 CF

report at all allowed

A allocated:

memory_manger-print_memory-Status()

mimory-manager. print-total memory-wedg).

output:

Current Memory Status:

[Start: 0, Size: 1500, Status: - Allocated to project A]

[Start:1500, Size:1000, Status: Allocated to Project B]

(Stalt: 2000, Size: 700, Status: Allocated to Project c)

Start: 3200, Size: 2200, Status Allocated to Project D)

[Start: 5900, Size: 500, Status: Allocated to Project E)

Estart: 1900, Size: 100, Status: Free]

Not enough memory to allocate project F. Total memory used: 5900 units of 6000 units.

Six again and company and copies a coupled postular used tech postering wounder the helpert records & western gain made Spanished computer system, efficient memory management greened sound pay the confidence without.

All the bit of the party

July Janes Bressa Baddined

rtug un

MANAGE PRINCIP

Contract of the second

to the second of the second of the second

Control Course (000) The

Afternoon promon making idea

311(2, 2) 1 1 - [1] + () - () 1 - () - () - ()

13/23

The Merou Box:

dy - 50 to (24) state state):

Stystate Start

Sey- 5720 * 5720

self-allecated e falle

SILL-MOCES-DEMC = None

dy-isfac (xy):

netwo net sel-allocated

dy altrate Ocy, process name):

म डामा अस्ता

sufallocated = True

in the water with the state of Sul-proces-name = proces-name

WILL WRITER

return false

dy diatoak (sy):

suf-alwated - False

sul-procon-name : None

du - 41- (304):

return 1" (Stant: Sour Stant 3, Sine: & sey, Size 3, Status : & status]"

```
clan Minory Monagers
                                                                              and the state of the property of the state o
                            oly - for Coey, lotal - memory s:
                                      self-told- memory = told-memory
                                      ely. memory-blocks = [the mory block ( 0, told-roemony)]
                          dy allocate-memory (self process name, 31713.
                                    for black in rely memory-blocks:
                                            11 block. to - free ) and block . Size = = 317e:
                                                    new-block = Mimory Plock Chlock . Sland + 51703.
                                                 self-memory-blacks append Cnew-works
                                            block-size = size
                                        block-allocate cprocess-named
                          print(1" Not Enough memory to allocate for aprocus name?-").
                           return False
                                                                                               - in - halal son off · Laperiam - jupoused
                       dy print-memory-slatuscely):
                                 print("In current Mergery Status: ")
     for block to self-memory-blocks:
( print Chock)
  dy. print-total-memory-wed(self):
    total-wed = Sum Chlock. Size for block in self-memory-blocks)
                print (f"In Total tarmony wed: & total-wed & units.")
                 Memory-manager = Memory Manager (8000)
                   requests = [
                                 (" Emergency Department', 2000),
```

('Cardiology Department', 1500); ("Laboratory Information System", 1200), ("Radiology Department", 1800), ("Patient management System", 1000), ("Pharmacy Sydem", 600), ("Surgical Services", 2000), new bluck opening Block Printerson in

for request in requests: borggio. alaid - program 10? process-name, size = request allocated a memory manager - allocate - memory (proces - name

THE PLANT

if allocated: memory-manager print-memory-Statusco

memory-manager. print-total-memory-used ().

Output:

Current Memory Status: " WOUNT - LANKING (1) [Start: 0, Size: 2000, Status: Allocated to Emergency Department] [Start: 2000Size: 1500, status: Allocated to cardiology Department]

[Start: 300) Size: 1200, Status: Allocated to Laboratory information]

[Start: 6500, 812e: 1000, Status: Allocated to Ractiology Department].
[Start: 6500, 812e: 1000, Status: Patient management "System)

[Start! 7500, Size! 500, Status : Free] Women woman

enough space to allocate for Pharmacy System. Not

Not enough memory to allocate for surgical services.

Total memory wed: 7500 units but of 8000 units.