

Memory Allocation Assignment

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MANUAL

- 1) Enter no of Holes.
- 2) Enter Details(Starting Address , Hole Size) for the first Hole and PRESS Add Hole button .
- 3) Repeat step (2) for each Hole .
- 4) Select the Algorithm (First Fit , Best Fit).
- 5) Enter no of Processes.
- 6) Enter Details(Process Name, Process Size) for the first Process and PRESS Allocate Process button.
- 7) Repeat step (7) for each Process .
- 8) Press Run button .
- 9) Enter the name of process to be de-allocated then Press De-Allocate .

NOTE

- 1) To try another algorithm press Restart button and repeat the steps again .
- 2) You can De-Allocate any process if you allocate it before at any time and press Run to show the change in Memory.
- 3) If the size of a process can't fit any hole, COMPACTION will be occurred .
- 4) DON'T edit the data in tables .
- 5) You can press RUN any time to show the OUTPUT in the table and chart .

SNAPSHOTS OF OUTPUT

1)First Fit

Example :

1)Allocate the holes .

2)Select the type of allocation .

Enter Hole Details :

No of Holes :

Starting Address :

Hole Size :

Select the Method of Allocation :

☒ First Fit

☐ Best Fit

Hole Address	Hole Size
100	70
200	50
300	40
400	80

Process Name	Process Size
--------------	--------------

frag Address	frag Size
--------------	-----------

Enter Process Details :

No of Processes :

Process Name :

Process Size :

Process Name :

Address	Status	Size
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Activate Windows
Go to PC settings to activate Windows.

3)Enter number of processes and allocate them .

Note :(here I allocate 4 processes)

4)Press RUN .

Form1

Enter Hole Details :

No of Holes :

Starting Address :

Hole Size :

Add Hole

Hole Adress	Hole Size
100	70
200	50
300	40
400	80

Process Name	Process Size
p1	50
p2	30
p3	70
p4	40

frag Adress	frag Size
150	20
230	20
470	10

Enter Process Details :

No of Processes :

Process Name :

Process Size :

Allocate Process

Process Name :

De-Allocate

Select the Method of Allocation :

☒ First Fit

☐ Best Fit

Restart **Run**

Memory

Address	Status	Size
100	p1	50
150	Internal fragment...	20
200	p2	30
230	Internal fragment...	20
300	p4	40
400	p3	70
470	Internal fragment...	10

Activate Windows
Go to PC settings to activate Windows.

Windows taskbar: 11:36 PM 4/27/2018

5) allocate the fifth process and press RUN.

Note: the process can't be allocated as no holes in the memory.

Form1

Enter Hole Details :

No of Holes :

Starting Address :

Hole Size :

Hole Address	Hole Size
100	70
200	50
300	40
400	80

Enter Process Details :

No of Processes :

Process Name :

Process Size :

Process Name :

Process Name	Process Size
p1	50
p2	30
p3	70
p4	40

frag Address	frag Size
150	20
230	20
470	10

Select the Method of Allocation :

☒ First Fit

☐ Best Fit

this process can't be allocated ,PLEASE deallocate one of the allocated processes!

Address	Status	Size
100	p1	50
150	Internal fragment...	20
200	p2	30
230	Internal fragment...	20
300	p4	40
400	p3	70
470	Internal fragment...	10

Activate Windows
Go to PC settings to activate Windows.

11:38 PM
4/27/2018

6)De-Allocate p1 and press RUN .

Enter Hole Details :

No of Holes :

Starting Address :

Hole Size :

Add Hole

Select the Method of Allocation :

☒ First Fit

☐ Best Fit

Restart

Run

Hole Address	Hole Size
100	70
200	50
300	40
400	80

Process Name	Process Size
p2	30
p3	70
p4	40

frag Address	frag Size
230	20
470	10

Enter Process Details :

No of Processes :

Process Name :

Process Size :

Allocate Process

Process Name :

De-Allocate

Address	Status	Size
100	Hole	70
200	p2	30
230	Internal fragment...	20
300	p4	40
400	p3	70
470	Internal fragment...	10

Activate Windows
Go to PC settings to activate Windows.

7)try to enter the process again .

Note: (the process can't be allocated again as no hole can fit it , and there is one hole so compaction can't be done)

Form1

Enter Hole Details :

No of Holes :

Starting Address :

Hole Size :

Add Hole

Hole Address	Hole Size
100	70
200	50
300	40
400	80

Process Name	Process Size
p2	30
p3	70
p4	40

frag Address	frag Size
230	20
470	10

Enter Process Details :

No of Processes :

Process Name :

Process Size :

Allocate Process

Process Name :

De-Allocate

Select the Method of Allocation :

☒ First Fit

☐ Best Fit

Restart **Run**

this process can't be allocated ,PLEASE deallocate one of the allocated processes!

OK

500
400
300
200
100
0

Hole p2 Internal fragmentation p4 Internal fragmentation p3 Memory

Address	Status	Size
100	Hole	70
200	p2	30
230	Internal fragment...	20
300	p4	40
400	p3	70
470	Internal fragment...	10

Activate Windows
Go to PC settings to activate Windows.

11:44 PM
4/27/2018

8)De-Allocate process p3 .

Enter Hole Details :

No of Holes :

Starting Address :

Hole Size :

Add Hole

Select the Method of Allocation :

☒ First Fit

☐ Best Fit

Restart

Run

Hole Address	Hole Size
100	70
200	50
300	40
400	80

Process Name	Process Size
p2	30
p4	40

frag Address	frag Size
230	20

Enter Process Details :

No of Processes :

Process Name :

Process Size :

Allocate Process

Process Name :

De-Allocate

Address	Status	Size
100	Hole	70
200	p2	30
230	Internal fragment...	20
300	p4	40
400	Hole	80

Memory

Activate Windows
Go to PC settings to activate Windows.

Windows

10:44 PM
4/28/2018

9) Allocate p5 again 😊 .

Form1

Enter Hole Details :

No of Holes : 4

Starting Address :

Hole Size :

Add Hole

Select the Method of Allocation :

☒ First Fit

☐ Best Fit

Restart Run

Hole Address	Hole Size
100	70
200	50
300	40
400	80

Process Name	Process Size
p2	30
p4	40
p5	90

frag Address	frag Size
230	20
420	60

Enter Process Details :

No of Processes : 5

Process Name :

Process Size :

Allocate Process

Process Name :

De-Allocate

Address	Status	Size
130	p2	30
160	Internal fragment...	20
230	p4	40
330	p5	90
420	Internal fragment...	60

Activate Windows
Go to PC settings to activate Windows.

Finally we did it 😊 .

Note: compaction occur between the two holes to make one hole of size 150 .

To try this Example on the Best-Fit type we Restart the program and start again .

Form1

Enter Hole Details :

No of Holes :

Starting Address :

Hole Size :

Hole Address	Hole Size
100	70
200	50
300	40
400	80

Process Name	Process Size
--------------	--------------

frag Address	frag Size
--------------	-----------

Enter Process Details :

No of Processes :

Process Name :

Process Size :

Process Name :

Select the Method of Allocation :

☐ First Fit

☒ Best Fit

Memory

Address	Status	Size
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Activate Windows
Go to PC settings to activate Windows.

Windows taskbar: 12:01 AM, 4/28/2018

1) Allocate processes and press RUN.

Enter Hole Details :

No of Holes :

Starting Address :

Hole Size :

Add Hole

Select the Method of Allocation :

☐ First Fit

☒ Best Fit

Restart

Run

Hole Address	Hole Size
100	70
200	50
300	40
400	80

Process Name	Process Size
p1	50
p2	30
p3	70
p4	40

frag Address	frag Size
330	10
440	40

Enter Process Details :

No of Processes :

Process Name :

Process Size :

Allocate Process

Process Name :

De-Allocate

Address	Status	Size
100	p3	70
200	p1	50
300	p2	30
330	Internal fragment...	10
400	p4	40
440	Internal fragment...	40

Memory diagram showing allocation of processes p1, p2, p3, and p4 into memory holes. The diagram illustrates the state of memory after allocation using the Best Fit algorithm. The memory is represented as a horizontal bar with segments for each process and internal fragmentation. The processes are p3 (100-170), p1 (200-250), p2 (300-330), and p4 (400-440). Internal fragmentation is shown as gaps between processes: 10 units between p2 and p3, and 40 units between p4 and the end of the memory block.

Activate Windows
Go to PC settings to activate Windows.

2)Allocate P5 and RUN again .

Form1

Enter Hole Details :

No of Holes :

Starting Address :

Hole Size :

Select the Method of Allocation :

☐ First Fit

☒ Best Fit

Hole Address	Hole Size	Process Name	Process Size	frag Address	frag Size
100	70	p1	50	330	10
200	50	p2	30	440	40
300	40	p3	70		
400	80	p4	40		

this process can't be allocated ,PLEASE deallocate one of the allocated processes!

500

400

300

200

100

0

p3 p1 p2 Internal fragmentation Internal fragmentation p4

Enter Process Details :

No of Processes :

Process Name :

Process Size :

Process Name :

Address	Status	Size
100	p3	70
200	p1	50
300	p2	30
330	Internal fragment...	10
400	p4	40
440	Internal fragment...	40

Activate Windows
Go to PC settings to activate Windows.

12:08 AM
4/28/2018

3)De-Allocate p2 and RUN .

Enter Hole Details :

No of Holes :

Starting Address :

Hole Size :

Add Hole

Select the Method of Allocation :

☐ First Fit

☒ Best Fit

Restart

Run

Hole Address	Hole Size
100	70
200	50
300	40
400	80

Process Name	Process Size
p1	50
p3	70
p4	40

frag Address	frag Size
440	40

Enter Process Details :

No of Processes :

Process Name :

Process Size :

Allocate Process

Process Name :

De-Allocate

Address	Status	Size
100	p3	70
200	p1	50
300	Hole	40
400	p4	40
440	Internal fragment...	40

Activate Windows

Go to PC settings to activate Windows.

Memory layout diagram showing a horizontal bar with segments for p3, p1, Hole, p4, and Internal fragmentation. The y-axis represents memory size from 0 to 500.

Windows taskbar showing various application icons and system tray information including time and date.

4) Allocate p5 again .

Form1

Enter Hole Details :

No of Holes :

Starting Address :

Hole Size :

Add Hole

Hole Address	Hole Size
100	70
200	50
300	40
400	80

Process Name	Process Size
p1	50
p3	70
p4	40
p5	40

frag Address	frag Size
440	40

Enter Process Details :

No of Processes :

Process Name :

Process Size :

Allocate Process

Process Name :

De-Allocate

Select the Method of Allocation :

☐ First Fit

☒ Best Fit

Restart **Run**

Internal fragmentation

Address	Status	Size
100	p3	70
200	p1	50
300	p5	40
400	p4	40
440	Internal fragment...	40

Activate Windows
Go to PC settings to activate Windows.

10:47 PM
4/28/2018

5)De-Allocate process p1 and p4.

Form1

Enter Hole Details :

No of Holes :

Starting Address :

Hole Size :

Hole Address	Hole Size
100	70
200	50
300	40
400	80

Process Name	Process Size
p3	70
p5	40

frag Address	frag Size
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Enter Process Details :

No of Processes :

Process Name :

Process Size :

Process Name :

Select the Method of Allocation :

☐ First Fit

☒ Best Fit

Address	Status	Size
100	p3	70
200	Hole	50
300	p5	40
400	Hole	80

Activate Windows
Go to PC settings to activate Windows.

10:49 PM
4/28/2018

6) Allocate process p1 with size 100 so compaction will be done .

Form1

Enter Hole Details :

No of Holes :

Starting Address :

Hole Size :

Add Hole

Hole Address	Hole Size
100	70
200	50
300	40
400	80

Process Name	Process Size
p3	70
p5	40
p1	100

frag Address	frag Size
450	30

Enter Process Details :

No of Processes :

Process Name :

Process Size :

Allocate Process

Process Name :

De-Allocate

Select the Method of Allocation :

☐ First Fit

☒ Best Fit

Restart **Run**

500
400
300
200
100
0

p3 p5 p1 Internal fragmentation

Memory

Address	Status	Size
100	p3	70
250	p5	40
350	p1	100
450	Internal fragment...	30

Activate Windows
Go to PC settings to activate Windows.

10:49 PM
4/28/2018