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BSIT 3-2

1.) Format - changes the disk format for DOS usage

CHKDSK - Displays the available disks and their status

DiskCopy - Duplicates the content of the disk

Tree - Displays the path of all directories visually

Echo - Displays text on screen

2.) Time - Displays the system time

Date - Displays the date and allows the user to change it

CLS - Clears the screen upon entry

DIR - Displays the directory information of a disk

Copy - Copies a file

3.) Microsoft windows is an operating system manufactured by microsoft came out with a large variety of versions with its wide amount of features paired with its ease of use it became one of the most popular operating systems today. Its greatest competitor is macOS developed by apple. Similar to windows, macOS is also easy to use and has a lot of features. But MacOS is exclusive to apple devices such as the mac or the mac pro. The last platform is called open source. Examples of this is linux and other distributions. Open Source operating systems are available to the community to edit and build on.

4.) CPU - responsible for process handling; the brain of the computer

GPU - Graphics processing unit is responsible for graphics rendering

Mother Board - The main board of the computer. It holds a large majority of compo

Ram - Random Access memory holds all currently running tasks / applications

Power Supply - Provides power for all the other hardware components

5) Microsoft Word - document processing application

Photoshop - photo editing application

Premier Pro - Video Editing program

Google Chrome - A chromium based browser developed by google

VLC - A media player that can open many media file types

6) Operating systems began only as CLI (command line interface). There was no User interface at that time. Microsoft and Apple were the pioneer in the OS industry. After the release of the first versions of both microsoft windows and apples mac os they quickly released the next Versions. Every Version that gets released, more features are added. Eventually the modernization of operating systems reached the point where UI became the norm. After years of development it has made it to the present time where operating systems are feature rich and easy to use. Currently windows 10 is used accross the globe and with the release of windows 11, people are gradually switching to the latest version

7) As the CEO. the operating system controls everything in the system

As an Economist the operating System is able to manage the resources of the computer

As a Doctor an operating System can diagnose a problem in the system

As a customs officer an operating system can prevent the import/download of files that may pose as a threat to the entire system

As a plumber an operating system can clear the clogs in the system. it can also give warnings if the system storage is full.

8) Hardware interrupt - external device or hardware sends a signal.

Software interrupt - the processor requests software interrupt

Triggering Methods - uses logic signal level or signal edge

Level-Triggered Interrupt - if correct level is asserted the input module invokes an interrupt

Edge-Triggered Interrupt - as soon as an asserting edge a falling or rising edge, the input module invokes the interrupt

9.) Running - a process that is currently being executed
Ready - a process that is prepare to execute
Blocked / Waiting - a process that will not continue until an event happens
New - a new process that has not yet been admitted by the OS
Exit/Terminate - a released process

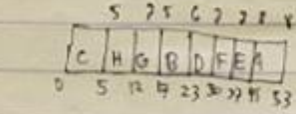
10.) Long Term Scheduler - selects the process from storage pool
Short Term scheduler - selects from the ready queue
Medium Term Scheduler - swaps a process from the main memory

SET B

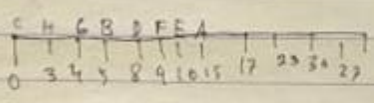
II 1.) FCFS w/o priority

Process Name	AT	BT	TAT	WT
A	15	8	38	30
B	5	6	18	12
C	0	5	5	0
D	8	7	22	15
E	10	8	35	27
F	9	7	28	21
G	4	5	13	8
H	3	7	9	2

Average TAT : 21 | Average Waiting time : 14.38



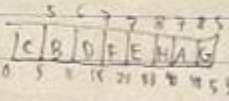
$\frac{53}{53} \times 100 =$ 100% cpu util



2.) FCFS with Priority

	TAT	WT
A	33	25
B	6	0
C	5	0
D	10	3
E	23	15
F	16	9
G	44	44
H	37	30

Average turnaround time = 22.38 | Average waiting time = 15.75



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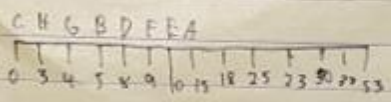
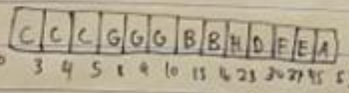


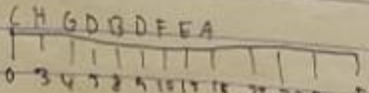
3.) SJF with Priority

Process Name	TAT	WT
A	38	30
B	11	5
C	5	0
D	22	8
E	35	27
F	28	14
G	6	1
H	33	27

Average turnaround time = 20.63 | Average waiting time = 14



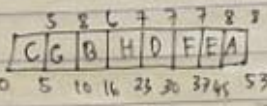
$\frac{53}{53} \times 100 =$ 100% cpu util



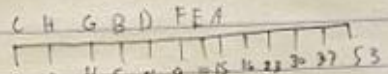
4) SJF w/o Priority

Average Turnaround Time = 20.63 | Average Waiting Time = 14.0

Process Name	TAT	WT
A	38	30
B	11	5
C	5	0
D	22	15
E	35	27
F	28	21
G	6	1
H	20	13



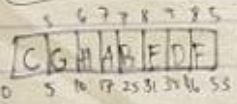
$\frac{53}{53} \times 100 =$ 100% cpu util



5) NPP

Average Turnaround Time = 21.5 | Average Waiting Time = 14.37

Process Name	TAT	WT
A	10	2
B	26	20
C	5	0
D	38	31
E	29	21
F	44	37
G	6	1
H	14	7

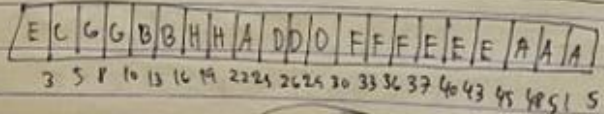


$\frac{53}{53} \times 100 =$ 100% cpu util

6) SRTF with slice time 3

Average Turnaround Time = 20.63 | Average Waiting Time = 14

Process Name	TAT	WT
A	38	30
B	11	5
C	5	0
D	22	15
E	35	27
F	28	21
G	5	1
H	2	13



$\frac{53}{53} \times 100 =$ 100% cpu util

7) PP w/ slice time of 4

Process Name	TAT	WT
A	32	24
B	23	17
C	48	43
D	7	0
E	26	18
F	13	6
G	49	44
H	36	29

Average Turnaround Time : 29.25 | Average waiting time = 22.63

C | H | D | D | F | F | B | B | E | E | H | A | A | C | G | G

0 4 8 12 15 19 22 26 28 32 36 39 43 47 48 52 53

$\frac{53}{53}$ = 100% cpu util

8) RR w/o Priority

Process Name	TAT	WT
A	38	30
B	23	17
C	5	0
D	34	27
E	34	26
F	38	31
G	18	13
H	38	36

Average Turnaround Time = 28.5 | Average waiting Time = 21.88

C | C | H | G | B | H | D | G | E | B | A | D | F | E | H | D | E | F | A | F | A

0 0 3 5 8 11 14 17 20 22 25 28 31 34 37 40 41 42 44 47 50 51 53

$\frac{53}{53}$ = 100% cpu util

9) RR w/ Priority

Process Name	TAT	WT
A	38	36
B	34	28
C	9	4
D	39	32
E	42	34
F	39	37
G	26	21
H	34	27

Average Turnaround Time = 32.63 | Average waiting Time = 26.0

C | C | C | H | C | G | H | B | C | G | H | D | B | F | E | G

0 3 5 8 11 14 17 20 22 23 28 31 34 40 41 51 53

$\frac{53}{53}$ = 100% cpu util

(03) FCFS With time slice of 4

Average Turnaround Time = 21 Average Waiting Time = 14.38

Process Name	TAT	WT
A	31	30
B	18	12
C	5	0
D	22	15
E	35	27
F	28	21
G	13	8
H	9	2

$\frac{53}{53} \times 100\% = 1$ CPU