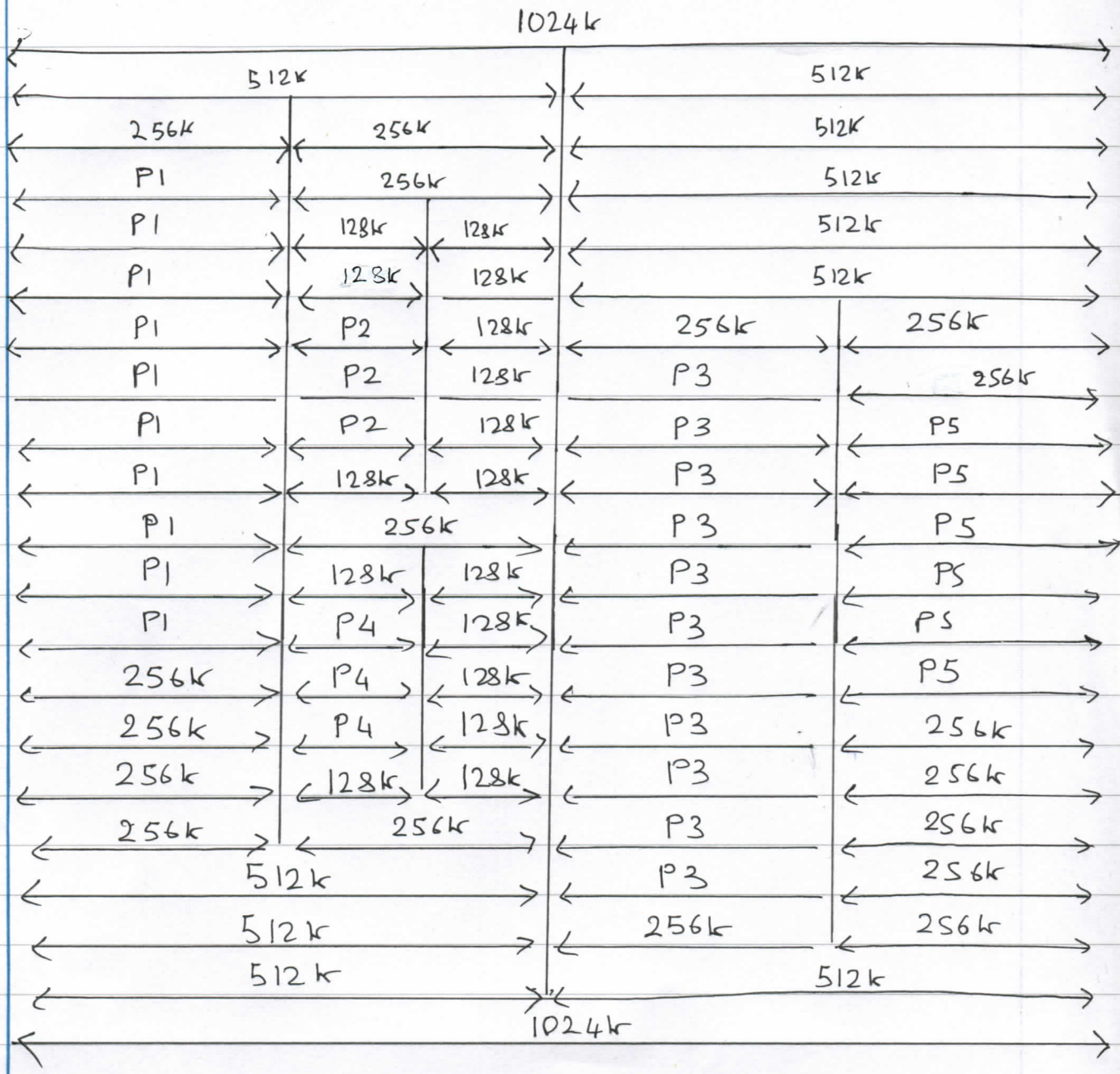
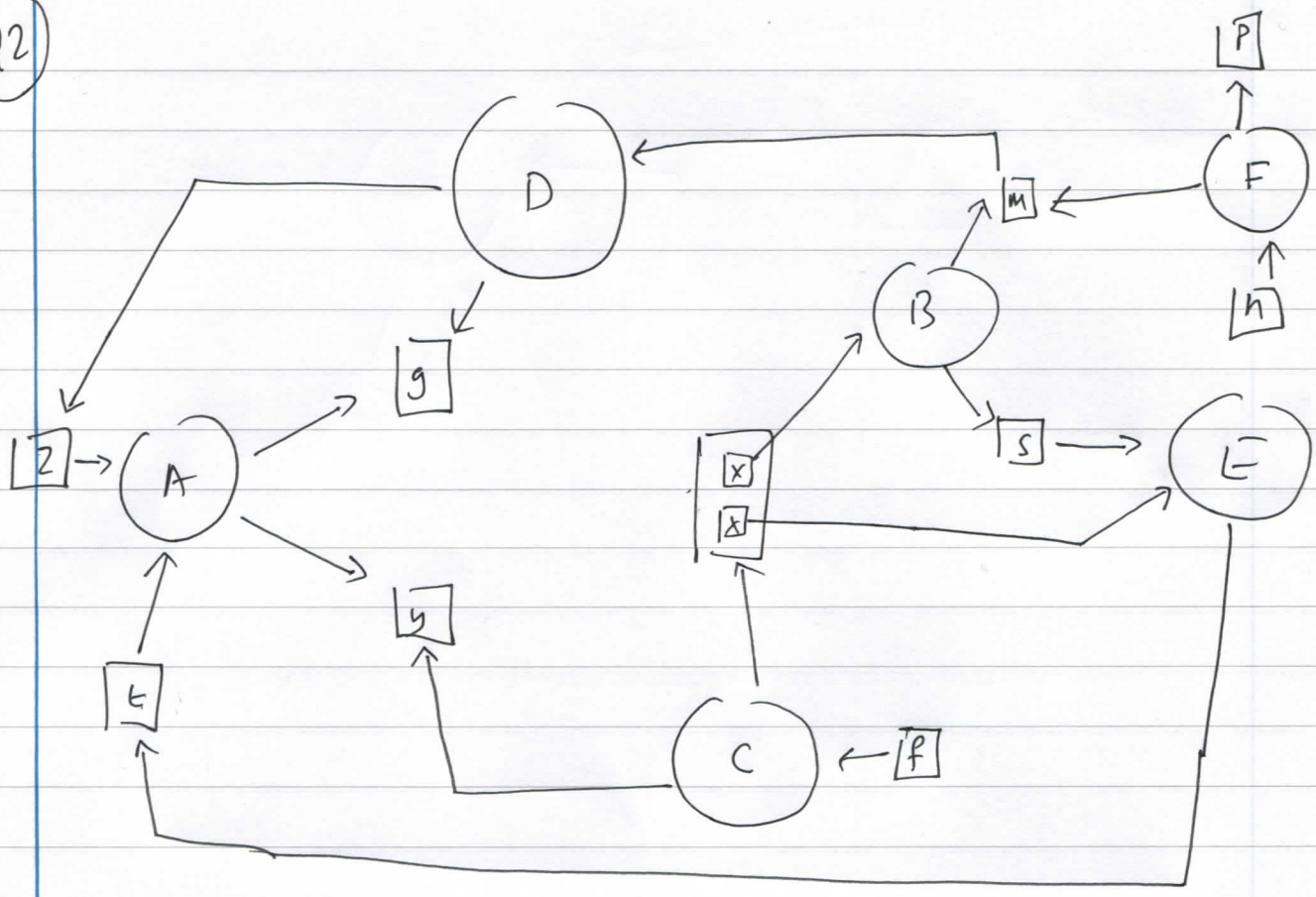
Practice Test 2

Q1



Q2



resorce g is in healty competion between P_A and P_D
" y " " " " " " " P_C

if PA obtains g and y then it can complete releasing resources g, y, z and z

Allowing E and D to complete

resarce x held by E is released allowing C to be allocted. resarce x and so it can complete

m is in healty competion between PD and PF, PB
if m is allocated to to F or D
these can then complete B will complete ~~and hence~~
after E completes, allocating resorce S

Q3

FF	300k	100k	50k	150k	200k
70k	230k	〃	〃	〃	〃
50k	180k	〃	〃	〃	〃
200k	〃	〃	〃	〃	0k
150k	30k	〃	〃	〃	〃
90k	〃	10k	〃	〃	〃
NF	300k	100k	50k	150k	200k
70k	230k	〃	〃	〃	〃
50k	180k	〃	〃	〃	〃
200k	〃	〃	〃	〃	0k
150k	30k	〃	〃	〃	〃
90k	〃	10k	〃	〃	〃

BF	300kr	100kr	50kr	150kr	200kr
70kr	〃	30kr	〃	〃	〃
50kr	〃	〃	0kr	〃	〃
200kr	〃	〃	〃	〃	0kr
150kr	〃	〃	〃	0kr	〃
90kr	210kr	〃	〃	〃	〃
WF	300kr	100kr	50kr	150kr	200kr
70kr	230kr	〃	〃	〃	〃
50kr	180kr	〃	〃	〃	〃
200kr	〃	〃	〃	〃	0kr
150kr	30kr	〃	〃	〃	〃
90kr	〃	〃	〃	60kr	〃

(4)

VP		PF	
0	0 — 1023	2	2048 - 3071
1	1024 - 2047	4	4096 - 5119
2	2048 - 3071	3	3072 - 4095
3	3072 - 4095	1	1024 - 2047
4	4096 - 5119	6	6144 - 7167
5	5120 - 6143	NM	Page Fault
6	6144 - 7167	0	0 - 1023

ii 1015 - 0 + 2048 = 3063

4070 - 3072 + 1024 = 2022

5130 : Page Fault

6984 - 6144 + 0 = 840

(5) 10 bit No. = m

r	m + r + 1	2^r	
3	14	8	
4	15	16	✓

require 4 bit Pos 1, 2, 4, 8

Total bit 14

1	0	0	0	0	1	H_4	0	1	0	H_3	1	H_2	H_1
14	13	12	11	10	9	8	7	6	5	4	3	2	1

Q5 cont

	H_4	H_3	H_2	H_1
	8	4	2	1
14	1	1	1	0
13	1	1	0	1
12	1	1	0	0
11	1	0	1	1
10	1	0	1	0
9	1	0	0	1
7	0	1	1	1
6	0	1	1	0
5	0	1	0	1
3	0	0	1	1

14 13 12 11 10 9

$H_4 + 1 + 0 + 0 + 0 + 0 + 1 \Rightarrow H_4 = 0$

14 13 12 7 6 5

$H_3 + 1 + 0 + 0 + 0 + 1 + 0 \Rightarrow H_3 = 0$

14 11 10 7 6 3

$H_2 + 1 + 0 + 0 + 0 + 1 + 1 \Rightarrow H_2 = 1$

13 11 9 7 5 3

$H_1 + 0 + 0 + 1 + 0 + 0 + 1 \Rightarrow H_1 = 0$

H_4 H_3 H_2 H_1

1 0 0 0 0 1 [0] 0 1 0 [0] 1 [1] [0]

} Data Transmitted with Hamming bits

Q6 Data received 1101100

7 bit long

Hamming bit Pos 1, 2, 4

7	6	5	4	3	2	1
1	1	0	1	1	0	0
			H_3		H_2	H_1

	4	2	1
7	1	1	1
6	1	1	0
5	1	0	1
3	0	1	1

H_3 + 7 + 6 + 5

1 1 1 0 = ODD X 1

H_2 7 6 3

0 1 1 1 = ODD X 1

H_1 7 5 3

0 1 0 1 = EVEN ✓ 0

4 2 1

1 1 0 = 6

Bit 6 is in error should be 0

(7)

```
                1 0 0 0 1 1 0 1 0 0
          ┌─────────────────────────
101110    │ 1 0 1 1 0 1 1 1 0 0 0 0 0 0
          1 0 1 1 1 0
          ─────────
            1 1 1 1 0 0
            1 0 1 1 1 0
            ─────────
              1 0 0 1 0 0
              1 0 1 1 1 0
              ─────────
                1 0 1 0 0 0
                1 0 1 1 1 0
                ─────────
                  1 1 0 0 0
```

r 11000

Data transmitted.

10110111001 11000

(8) -234.2

Sign = -ve ∴ Sign bit = 1

234	128	64	32	16	8	4	2	1
	1	1	1	0	1	0	1	0

						Whole No
0.2	×	2	→	0.4	−	0
0.4	×	2	→	0.8	−	0
0.8	×	2	→	1.6	−	1
0.6	×	2	→		−	1
0.2						repeat

$234.2 = 11101010.\overline{0011}$

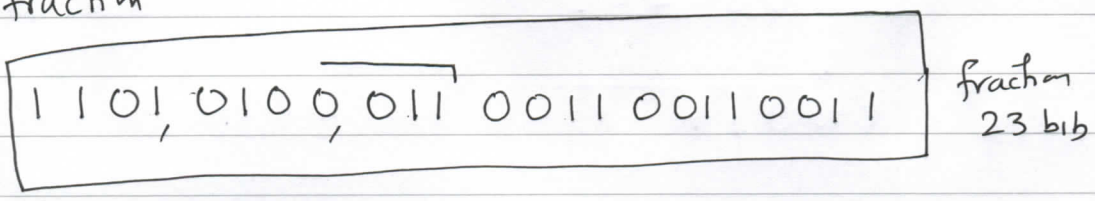
$1.11010100\overline{0011} \times 2^7$

Exponent

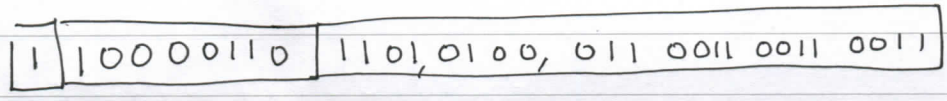
$7 + 127 \Rightarrow 134$

128	64	32	16	8	4	2	1	
1	0	0	0	0	1	1	0	} exponent

fraction



Soln.



(9) ps -l

displays the long version of the current processes running

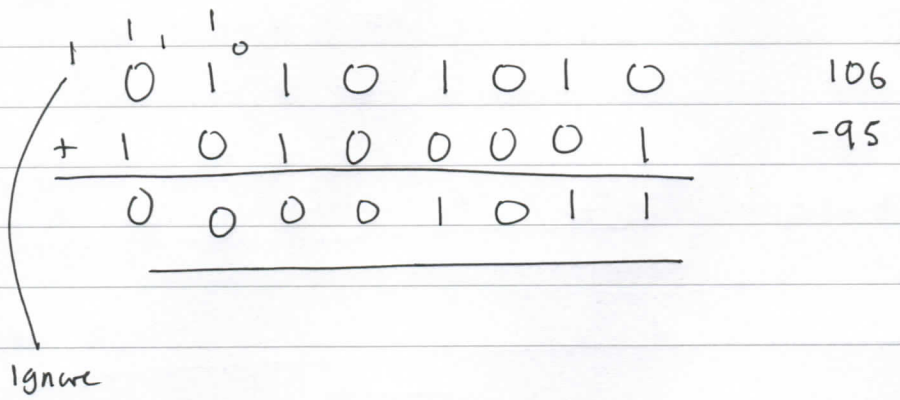
Columns include Process ID, Parent process ID, status, SIZE

(10) 106 - 95

	-	128	64	32	16	8	4	2	1
106:		0	1	1	0	1	0	1	0
95		0	1	0	1	1	1	1	1

-95:	flip bits	1	0	1	0	0	0	0	0
									1
	+								
		1	0	1	0	0	0	0	1 :

106 + (-95)



Q11 repeater will extend the length of ethernet cable and will amplify the signal
it can also remove noise and any distortion
and transmits the signal onto the next segment