1 $a=1, b=1$

$i=2, b=2, a=1$

$i=3, b=3, a=2$

$i=4, b=5, a=3$ → $b = \text{fibonacci}(i)$

$i=5, b=8, a=5$

$i=6, b=13, a=8$

$i=7, b=21, a=13$

$i=8$, keluar loop

$b = 21$ (c)

2 ayah(5, 6)

ret = 0,

i = 5, i ≤ 6, i++

ret *= i

a. 0

3. bebek(6, 7)

ret = 0

i = 0, i ≤ 6×7 ; i++

i % a == 0, ret += b

$\frac{a \cdot b}{a} = b + 1$

= 8

notasi = a × b

n, cari berapa dari 1 → n yang habis dibagi $u = \frac{n}{u}$

$0 \to n$, $\frac{n}{u} + 1$

ret += b

$= b \cdot (b + 1)$

$= 7 \cdot (7+1) = 56$ (d)

4. 5 2 4 1 3 6

i j, tukar, break

2 5 4 1 3 6

i j

2 4 5 1 3 6

i j

2 4 1 5 3 6

i j

2 4 1 3 5 6

i -> j selesai

akhir = 2 4 1 3 5 6

5. 1 << i

↳ left shift → bitwise operator

Dia menambahkan i angka 0 di kanan

1 << 0 = 1 → 1
1 << 1 = 10 → 2
1 << 2 = 100 → 4
1 << 3 = 1000 → 8

dalam biner

(1<<n) = 2^n

a & (1 << i)

↳ bitwise and

a & b → a = 111001
b = 011010
& 011000

tabel kebenaran

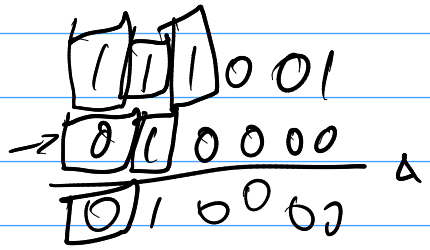
A	B	&
1	1	1
1	0	0
0	1	0
0	0	0

a & (1<<i) → mengecek apakah bit ke i menyala → bernilai 1

(1<<n) → 1 bit 1
n-1 bit 0

bitwise & mereturn 1 jika dan hanya jika kedunya 1

a & (1 << n) bernilai true
b
ketika bit ke n di a
bernilai 1



a & (1 << i) cek bit ke nya (true
(1 << i) = 2^i

117 -> biner

117 -> 58 -> 29 -> 14 -> 7 -> 3 -> 1
1 0 1 0 1 1 1

1 1 1 0 1 0 1
idx 6 5 4 3 2 1 0

$2^6 \times 2^5 \times 2^4 \times 2^2 \times 2^0$

$1 \times 4 \times 16 \times 32 \times 64$
$64 \times 32 \times 64$ --- 131072 (d)

6. hsl = 2 nilai = 10, hasil = 0

i = 0, hasil = 2^0 = 1

nilai = 5, i = 1, hasil = 2^1 = 3

nilai = 2, i = 2, hasil = 2^2 = 7
nilai = 1, i = 3, keluar dari loop

hasil = 7 (C)

7. b % a == 0, faktor dari b

loop dari a -> 1

jadi: banyak faktor b antara 1 - a

a = 20 b = 56

56: 1, 2, 4, 7
56, 28, 14, 8

6 (C)

8 (a>b) & (b>c), yes
→ (a>b) & (a>c) & !(b>c), no

→ (a>c), yes
(b>c) & ~(a>c), yes
→ else, no

a=1, b=2, c=3

a. felor(1, 2, 3)

a=3, b=1, c=2 → no\n
yes\n

9. janj: (20, 8, 0)

P>q, janj = infinite loop

d.

10. janj: (8, 16, 3)

1 2 + janj: (8, 16, 4)
+ 2 + janj: (8, 15, 5)
2
+ 2 + janj: (10, 15, 6)
3
+ 2 + janj: (10, 14, 7)
4

+ 2 + Jarak (14, 14, 8)

+ 2 + Jarak (14, 13, 9)

+ 12 + Jarak (12, 13, 10)

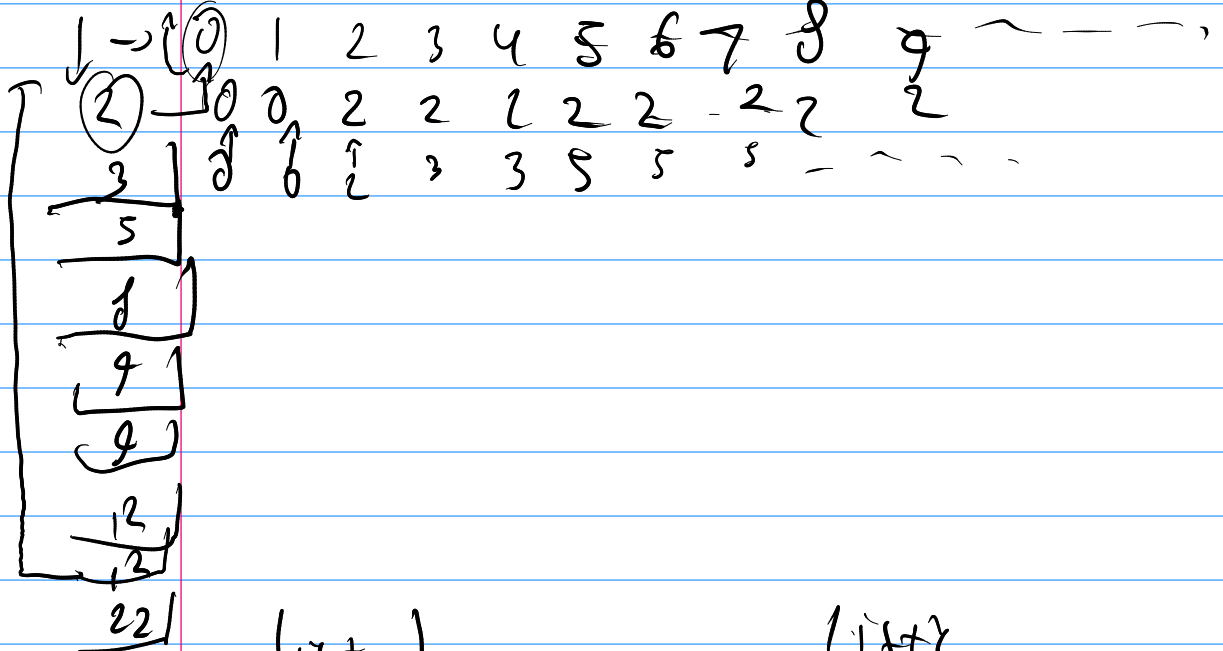
+ 2 + Jarak (12, 12, 11)

+ t = 11

2 × 8 + 11 = 16 + 11 = 27

$3(q-p)+t$

LPB : Knapsack



List 1

2, 3, 5, 8, 12

Jarak = 3

List 2

8, 9, 12

Jarak = 3

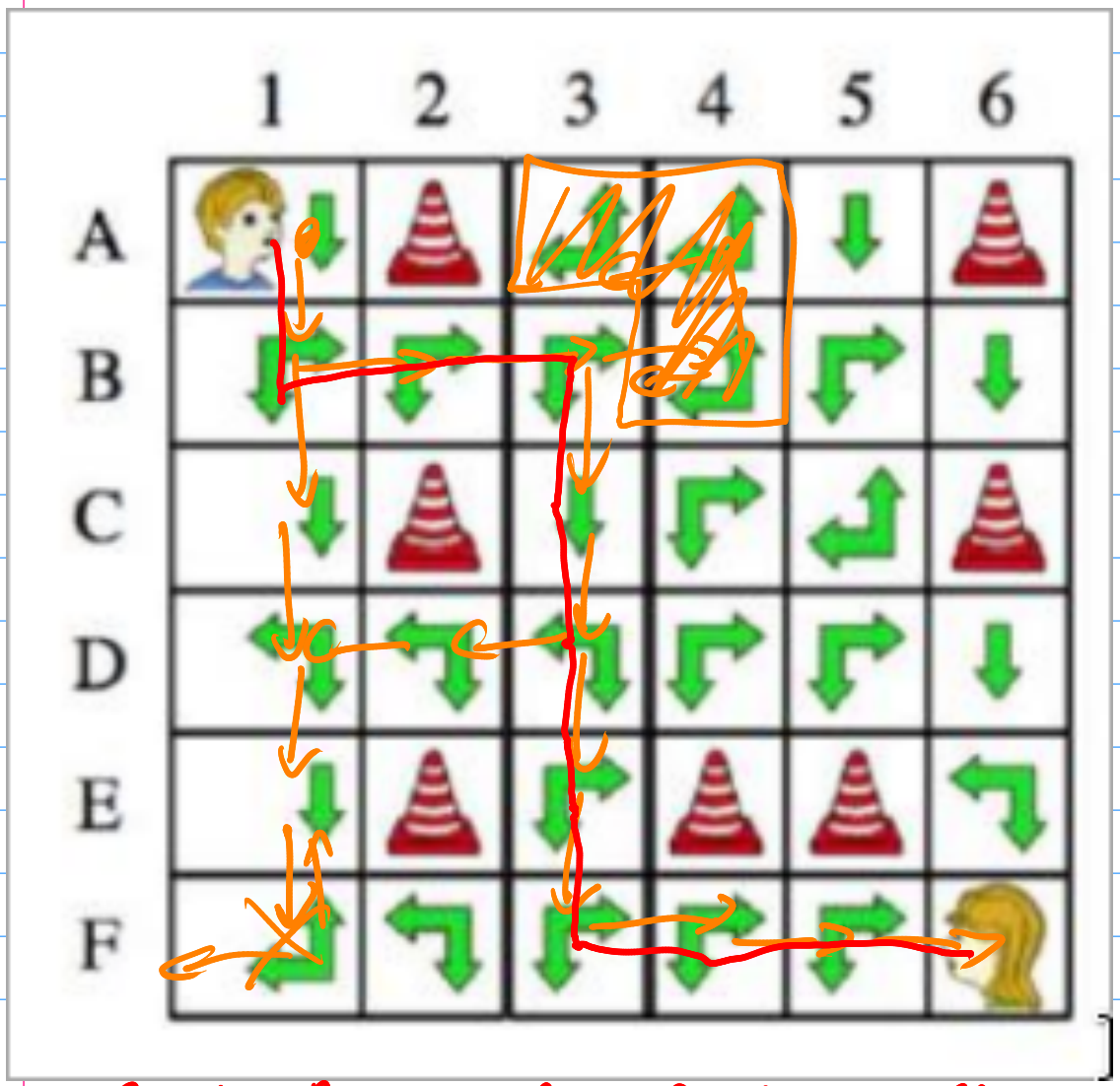
8 buang

Marko → bukan Marko
Ina → Marko atau David
Mayce → David
David → bukan david, Muyu kalong

X D → Jujur : M Bohong, I jujur, M, jujur

D → bohong : Muyu jujur, I jujur, M jujur

Kesimpulan : David (A)



C. A1, B1, B2, B3, C3, D3, E3, F3, F4, F5, F6

Berdurg an

4 -> C, A B D Modul

3 -> A, B, D

2 -> A, B, C

1 -> A, B

B, D, A, C

130, 186, 143, 75

-> 205 + 329

-> 534

BH + AH = 6

AU + JU = 6 total = 12

BU + JH

(C). Ling Kuan