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B-15

Tutt-15.

FREEMIND

Date _____

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Q1

amount = 50

list of Price

| 1 | 12 | 5 | 111 | 200 | 1000 | 10 |

~~diuuun~~ order.

| 1 | 1 | 5 | 10 | 12 | 111 | 200 | 1000 |

amount lyt   49

44

$1off = 1 + 1 + 1 + 1$ 34

22

Cannot
-89 Buy.

Max 4 toy a kid can buy.
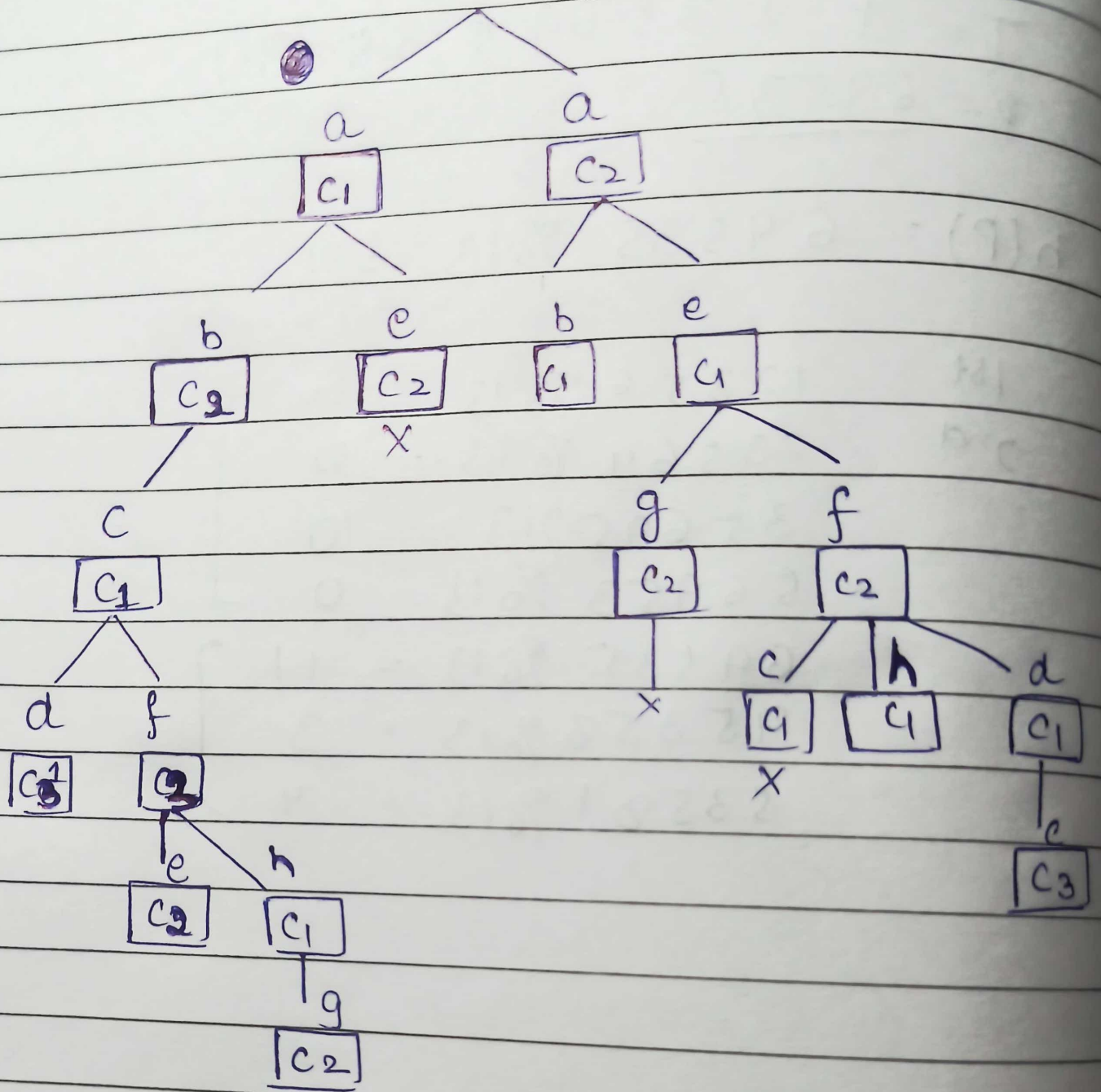
Q2 if n = 31

according to greedy approch
no. of coins are $= (25 + 1 + 1 + 1 + 1 + 1 + 1) = 7$ coins

to optimise this approch we use dynamic Programing approch.

no. of coins are $= (10 + 10 + 10 + 1) = 4$ coins

We use greedy if we want to chose local optimal, but for optimal solution we use dynamic Programing.

Q3


```
                    ●
                 /     \
            a            a
           [C₁]         [C₂]
          /    \        /    \
        b       e      b       e
      [C₃]    [C₂]   [C₁]    [C₁]
       |        x            /    \
       c                    g       f
      [C₁]                [C₂]    [C₂]
      /   \                |      / | \
    d      f               x     c  h  d
  [C₃¹]  [C₂]                   [C₁][C₁][C₁]
         /  \                    x        |
        e    h                            c
      [C₂]  [C₁]                         [C₃]
             |
             g
            [C₂]
```

min 3 colour.

Q4 wt [3, 4, 6, 5]
P [2 3 1 4]

	wt	r	wt=0	1	2	3	4	5	6	7	8
n=0			0	0	0	0	0	0	0	0	0
n=1	3	2	0	0	0	2	2	2	2	2	2
n=2	4	3	0	0	0	2	3	3	3	5	5
n=3	6	1	0	0	0	2	3	3	3	5	5
n=4	5	4	0	0	0	2	3	4	4	4	6

$$\text{if } w_n \leq w$$
$$KS(n,w) = \max \begin{pmatrix} KS(n-1, w-w_n) + P_n \\ KS(n-1, w) \end{pmatrix}$$

KS(1,1)

K(1,0) XC·

$$w_n > w$$
$$KS(n,w) = KS(n-1, w)$$

① K(1,1) $\overset{3}{w_t} > 1$ K(1,2)   K(1,3)

K(0,1)   K(0,2)   K(0,0) K(0,3)

         +2

         2   0

③ K(1,4)   K(1,5)

K(0,1) K(0,4)   K(0,2) K(0,5)

+2   0   +2

② K(2,1)   K(2,2)   K(2,4)

1

K(1,1)   K(1,0) K(1,4)

         +3   =2

        = 0+3

a) KS(2,5)

KS(1,1)   KS(2,5)
          = 2
+3
0+3

K(2,6)

KSC(1,2)   KSC(1,5)
+3
= 0+3 = 3

K(2,7)

KC(1,5)
+3
= 2+3
= 5

b) K(3,6)

K(2,0)   K(2,6)
+1   3
= 0+1

K(3,7)

(2,1)   K(2,7)
+1   = 5

K(3,8)

KC(2,3)   K(2,2)
+1   = 5
0

c) K(4,5)

K(3,0)   KS(3,5)
0 +4   3

✕   K(4,6)

K(3,1)   K(3,6)
+4   3
=

K(4,7)

K(3,0) 5
+4
=

Q5

S_1	0	B	C	D	A	A	C	D
0	0	0	0	0	0	0	0	0
A	0	0	0	0	1	1	1	1
C	0	0	1	1	1	1	2	2
D	0	0	1	2	2	2	2	3
B	0	1	1	2	2	2	2	3
A	0	1	1	2	3	3	3	3
C	0	1	2	2	3	3	4	4

LCS = CDAC

length = 4

Ans

CDAC
CD AC