

$m=5, n=5$

pre-written

$[0][0]$

$(0,1)$

$(0,2)$

$(0,3)$

$(0,4)$

$F[0][1] W$

$F[0][2] W$

$F[0][3] W$

$F[0][4] W$

$F[0][1] R$

$F[0][2] R$

$F[0][3] R$

$F[0][4] R$

$C[0][1] R$

$C[0][2] R$

$C[0][3] R$

$C[0][4] R$

$(1,0)$

$(1,1)$

$(1,2)$

$(1,3)$

$(1,4)$

$F[1][0] W$

$F[1][1] W$

$F[1][2] W$

$F[1][3] W$

$F[1][4] W$

$F[1][0] R$

$F[1][1] R$

$F[1][2] R$

$F[1][3] R$

$F[1][4] R$

$C[1][0] R$

$F[0][1] R$

$F[0][2] R$

$F[0][3] R$

$F[0][4] R$

$C[1][1] R$

$C[1][2] R$

$C[1][3] R$

$C[1][4] R$

$(2,0)$

$(2,1)$

$(2,2)$

$(2,3)$

$(2,4)$

$F[2][0] W$

$F[2][1] W$

$F[2][2] W$

$F[2][3] W$

$F[2][4] W$

$F[2][0] R$

$F[2][1] R$

$F[2][2] R$

$F[2][3] R$

$F[2][4] R$

$C[2][0] R$

$F[1][1] R$

$F[1][2] R$

$F[1][3] R$

$F[1][4] R$

$C[2][1] R$

$C[2][2] R$

$C[2][3] R$

$C[2][4] R$

$(3,0)$

$(3,1)$

$(3,2)$

$(3,3)$

$(3,4)$

$F[3][0] W$

$F[3][1] W$

$F[3][2] W$

$F[3][3] W$

$F[3][4] W$

$F[3][0] R$

$F[3][1] R$

$F[3][2] R$

$F[3][3] R$

$F[3][4] R$

$C[3][0] R$

$F[2][1] R$

$F[2][2] R$

$F[2][3] R$

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$F[4][0] W$

$F[4][1] W$

$F[4][2] W$

$F[4][3] W$

$F[4][4] W$

$F[4][0] R$

$F[4][1] R$

$F[4][2] R$

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$F[4][4] R$

$C[4][0] R$

$F[3][1] R$

$F[3][2] R$

$F[3][3] R$

$F[3][4] R$

$C[4][1] R$

$C[4][2] R$

$C[4][3] R$

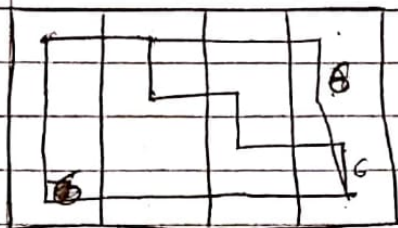
$C[4][4] R$

CRITICAL PATH = $n + (m-1)$

WORK = ~~$(m-1)(n-1)$~~ $(m-1)(n-1) * (n-1)$

WIDTH = $(m-1)$

coin
collection



$$4 \times 4 = 6$$

$$(n+m-2)$$



$$(3+5-2) = 6$$

$$(5+4-2) = 7$$

\Rightarrow No. of coins that can be collected $= (n+m-2)$

$F[0][1]$

$F[0][0] \mid F[0][1] \mid F[0][2] \mid F[0][3]$

$c[0][0] \mid c[0][1] \mid c[0][2] \mid c[0][3]$

$F[1][0]$

$F[0][0]$

$c[1][0]$

$m \times n$

$$m + (m \times n) = m^2 + mn$$

\Rightarrow the complexity of RobotCoin function will be

$$O(m-1) + O((m-1)(n-1))$$

$$= O((m-1)^2 + (n-1)(m-1))$$

$$= O(m^2 - 2m + 1 + nm - n - m + 1)$$

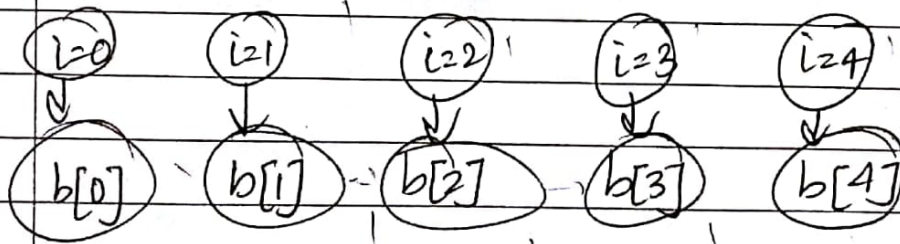
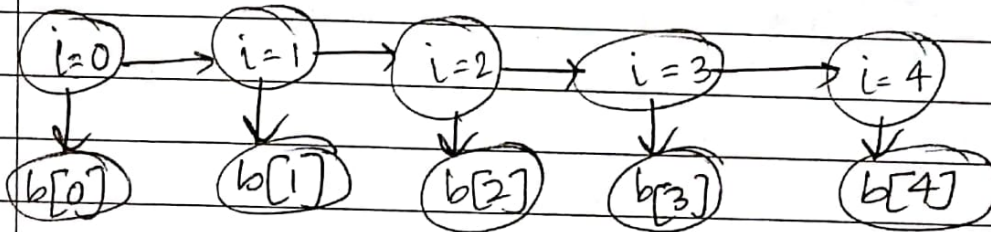
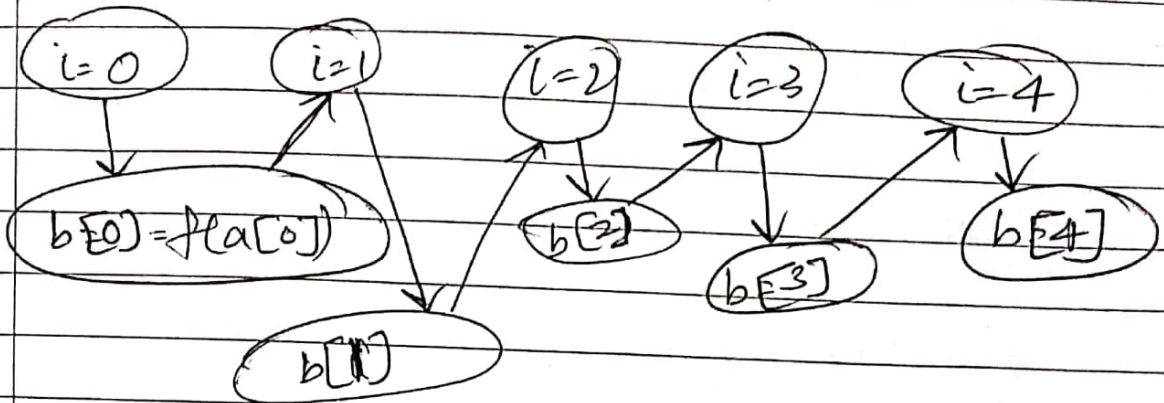
$$= O(m^2 - 2m + nm - n + 2 - m)$$

$$= O(m^2 - 3m + nm - n + 2)$$

Transform

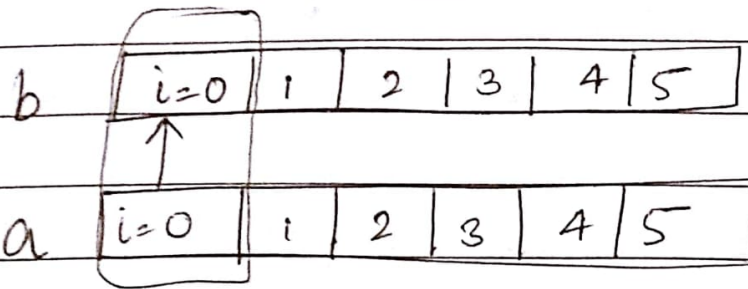
```
void transform (int *a, int *b, int n) {  
    for (int i=0; i<n; i++)  
        b[i] = f(a[i]);  
}
```

$n=5 \Rightarrow$



width = N
work = N
CP = 1
work = N

second array - sum - 7



$$a=1 \quad b=0 \quad c=1 \quad d=0$$

$$\text{gcd}(1, 0) = 1$$

$$\text{gcd}(0, 0) = \text{not defined} \quad d-b=0$$

$\neq \frac{1}{0}$ no dependency possible