

WANG YAO 12131078

## 1. Flowchart

83 74 67

b cannot be the max according to the requirement

50 40 10

## 2. Matrix multiplication

M1:

```
[[19 0 22 47 40 14 14 26 7 9]
 [25 2 0 38 0 19 21 36 5 30]
 [27 46 49 28 46 22 7 37 0 13]
 [39 16 46 25 12 36 17 10 32 16]
 [5 14 34 1 40 20 26 30 8 29]]
```

M2:

```
[[22 26 41 47 30]
 [14 10 43 21 3]
 [0 40 25 39 13]
 [26 39 4 40 12]
 [37 46 41 27 0]
 [20 28 16 44 3]
 [46 45 26 23 12]
 [9 33 7 7 16]
 [36 33 42 39 27]
 [1 6 20 45 12]]
```

M3:

```
[[4539. 7212. 4401. 6509. 2343.]
 [3446. 5162. 3175. 5853. 2592.]
 [4776. 8560. 7361. 8481. 2819.]
 [4936. 7796. 6781. 9300. 3644.]
 [3995. 6667. 5423. 6280. 2062.]]
```

## 3. Pascal triangle

100 LINE:

```
[1, 99, 4851, 156849, 3764376, 71523144, 1120529256, 14887031544, 171200862756,
1731030945644, 15579278510796, 126050526132804, 924370524973896,
6186171974825304, 38000770702498296, 215337700647490344, 1130522928399324306,
5519611944537877494, 25144898858450330806, 107196674080761936594,
428786696323047746376, 1613054714739084379224, 5719012170438571889976,
19146258135816088501224, 60629817430084280253876, 181889452290252840761628,
517685364210719623706172, 1399667836569723427057428,
3599145865465003098147672, 8811701946483283447189128,
```

20560637875127661376774632, 45764000431735762419272568,  
97248500917438495140954207, 197443926105102399225573693,  
383273503615787010261407757, 711793649572175876199757263,  
1265410932572757113244012912, 2154618614921181030658724688,  
3515430371713505892127392912, 5498493658321124600506947888,  
8247740487481686900760421832, 11868699725888281149874753368,  
16390109145274293016493707032, 21726423750712434928840495368,  
27651812046361280818524266832, 33796659167774898778196326128,  
39674339023040098565708730672, 44739148260023940935799206928,  
48467410615025936013782474172, 50445672272782096667406248628,  
50445672272782096667406248628, 48467410615025936013782474172,  
44739148260023940935799206928, 39674339023040098565708730672,  
33796659167774898778196326128, 27651812046361280818524266832,  
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197443926105102399225573693, 97248500917438495140954207,  
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126050526132804, 15579278510796, 1731030945644, 171200862756, 14887031544,  
1120529256, 71523144, 3764376, 156849, 4851, 99, 1]

200 LINE

[1, 199, 19701, 1293699, 63391251, 2472258789, 79936367511, 2203959847089,  
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 21328454093562616, 1122550215450664, 52895036330136, 2203959847089, 79936367511,  
 2472258789, 63391251, 1293699, 19701, 199, 1]

#### 4. Add or double

MONEY = 92 STEP = 9  
 MONEY = 17 SETP = 5  
 MONEY = 50 SETP = 7

#### 5. Dynamic programming

ALL SOLUTION FOR 100 (IF NOT SYMBOL THERE IS +)

[123, 45, -67, 8, -9]  
 [123, 4, -5, 67, -89]  
 [123, -45, -67, 89]  
 [123, -4, -5, -6, -7, 8, -9]  
 [12, 3, 4, 5, -6, -7, 89]  
 [12, 3, -4, 5, 67, 8, 9]  
 [12, -3, -4, 5, -6, 7, 89]  
 [1, 23, -4, 56, 7, 8, 9]  
 [1, 23, -4, 5, 6, 78, -9]  
 [1, 2, 34, -5, 67, -8, 9]  
 [1, 2, 3, -4, 5, 6, 78, 9]

FOR 1 TO 100, NUMBER OF SOLUTIONS ARE AS FOLLOW:

[26, 11, 18, 8, 21, 12, 17, 8, 22, 12, 21, 11, 16, 15, 20, 8, 17, 11, 20, 15, 16, 11, 23, 18, 13, 14,  
 21, 15, 19, 17, 14, 19, 19, 7, 14, 19, 19, 17, 18, 16, 17, 18, 10, 15, 26, 18, 15, 16, 12, 17, 19, 9,  
 17, 21, 16, 13, 14, 16, 17, 17, 11, 13, 22, 14, 13, 15, 15, 15, 17, 7, 14, 17, 15, 12, 13, 14, 14, 14,  
 10, 9, 19, 12, 13, 13, 12, 11, 12, 6, 12, 14, 16, 13, 11, 11, 10, 11, 7, 9, 17, 11]

SO THE MOST OF SOLUTION IS 1 AND 45

