

Lab01 Pseudocode and Flowchart

Scenario 1: Login Attempt

1. Pseudocode

START

Loop 3 times:

 Prompt for user's credential

 Read username and password from user's input

 Validate username and password with database

 If success:

 Access granted

 END

Prompt user to answer secret question

Read user's answer

Validate user's answer with database

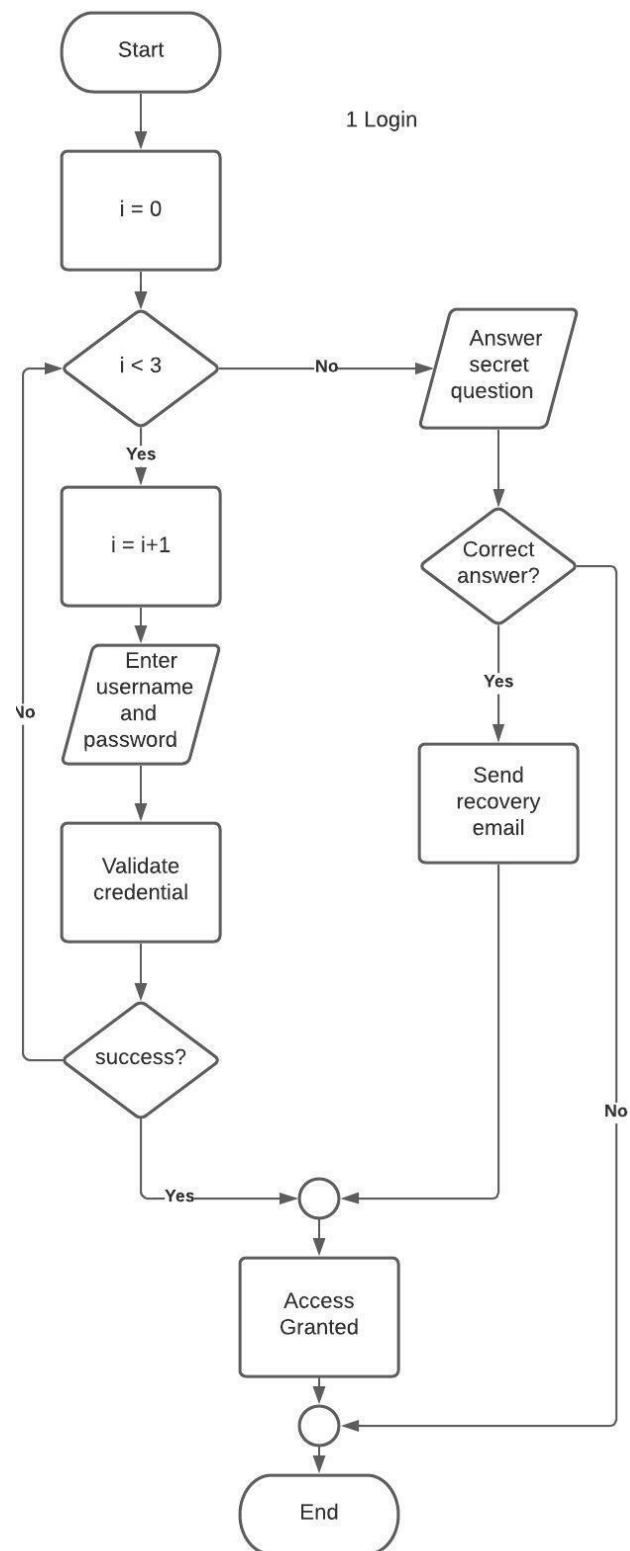
If success:

 Access granted

 Send username and password to user's registered email

END

2. Flowchart



3. Testcase

Test case	Inputs	Expected Results	Coverage
1 st Wrong Credential	Correct username Incorrect password	Access Denied, Give another chance	1-7
1 st Wrong Credential	Incorrect username Correct password	Access Denied, Give another chance	1-7
1 st Wrong Credential	Incorrect username Incorrect password	Access Denied, Give another chance	1-7
2 nd Wrong Credential	Failed 1 st attempt Incorrect username Incorrect password	Access Denied, Give another chance	1-7
2 nd Wrong Credential	Failed 1 st attempt Incorrect username Correct password	Access Denied, Give another chance	1-7
2 nd Wrong Credential	Failed 1 st attempt Correct username Incorrect password	Access Denied, Give another chance	1-7
3 rd Wrong Credential	Failed 1 st and 2 nd attempt Incorrect username Incorrect password	Access Denied, Ask secret question	1-7
3 rd Wrong Credential	Failed 1 st and 2 nd attempt Correct username Incorrect password	Access Denied, Ask secret question	1-7
3 rd Wrong Credential	Failed 1 st and 2 nd attempt Incorrect username Correct password	Access Denied, Ask secret question	1-7
1 st Correct Credential	Correct username Correct password	Access Granted	1-7

2 nd Correct Credential	Failed 1 st attempt Correct username Correct password	Access Granted	1-7
3 rd Correct Credential	Failed 1 st and 2 nd attempt Correct username Correct password	Access Granted	1-7
Wrong Secret Question	Failed 3 rd login attempt Answer secret question wrong	Nothing happened	8-13
Correct Secret Question	Failed 3 rd login attempt Answer secret question correctly	Send recovery email with username and password Access Granted	8-13

Scenario 2: Money Transfer

1. Pseudocode

START

Login to banking account for A

If login not success:

 END

Prompt user to enter account B ID

Input account B ID

while account B ID does not exist:

 print 'Account doesn't exists'

 Input account B ID

Specified amount of money to transfer to account B

while amount \leq 0:

 Print 'Amount can't be less than 1'

 Specified amount of money to transfer to account B

If accountB bank == accountA bank:

 If amount $>$ 10000:

 Pay fee = amount*0.01

Else:

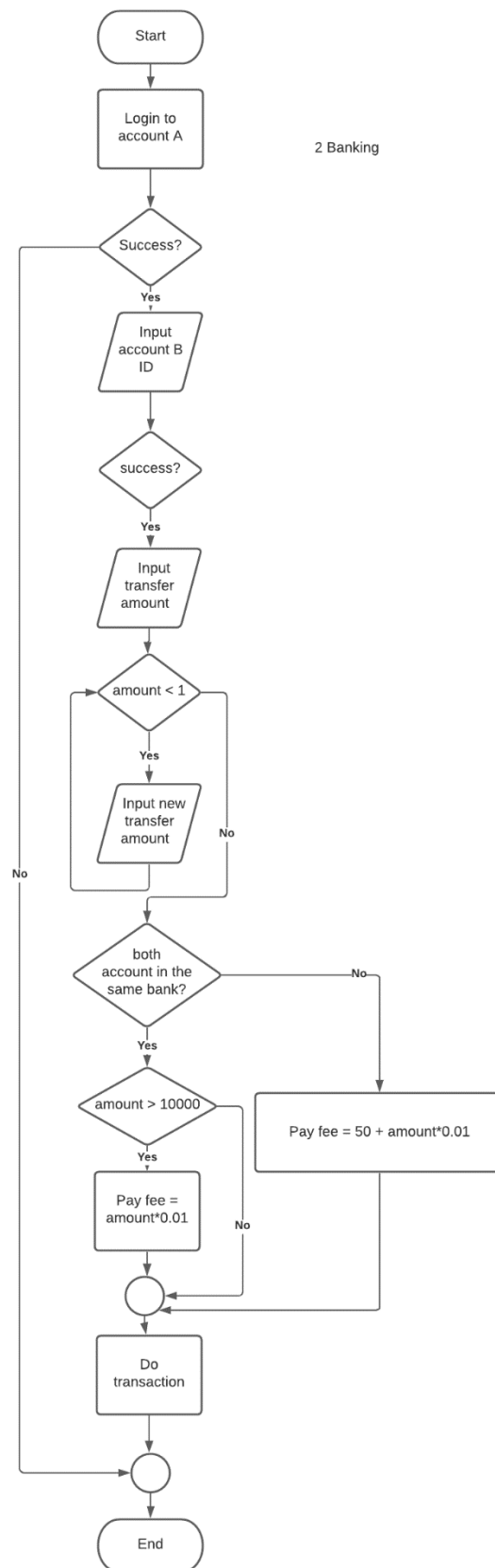
 Pay fee = 50 + amount*0.01

Transfer money to account B by specified amount

Pay transaction fee

END

2. Flowchart



3. Testcase

Test case	Inputs	Expected Results	Coverage
Wrong Credential	Login with wrong credential	Can't do transaction, end of program	1-3
Correct Credential	Login with correct credential	Prompt user to input account B ID	1-3
Account B ID doesn't exist	Input non-existing account ID	Show warning that the account doesn't exist Prompt user to enter new account ID	4-8
Account B ID exist	Input existing account ID	Prompt user to specified amount of money to transfer to account B	4-8
Less than 1 amount	Input -1	Show warning that the amount to transfer can't be less than 1 Prompt user to input new amount	9-12
Less than 1 amount	Input 0	Show warning that the amount to transfer can't be less than 1 Prompt user to input new amount	9-12
Less than 1 amount	Input 0.99	Show warning that the amount to transfer can't be less than 1	9-12

		Prompt user to input new amount	
Valid amount	Account B is in the same bank as account A. Input 1	Calculate fee then transfer the specified amount. No fee applied.	13-22
Valid amount	Account B is in the same bank as account A. Input 10000	Calculate fee then transfer the specified amount. No fee applied.	13-22
Valid amount	Account B is in the same bank as account A. Input 10001	Calculate fee then transfer the specified amount and pay for fee. Fee is equal to 100.01	13-22
Valid amount	Account B is in the same bank. Input 20000	Calculate fee then transfer the specified amount and pay for fee. Fee is equal to 200	13-22
Valid amount	Account B is not in the same bank as account A. Input 10000	Calculate fee then transfer the specified amount and pay for fee. Fee is equal to 150	13-22
Valid amount	Account B is not in the same bank as account A. Input 100	Calculate fee then transfer the specified amount and pay for fee. Fee is equal to 51	13-22

Scenario 3: Sales Promotion

1. Pseudocode

START

Get order price

If customer is a preferred customer:

 If price > 1000:

 If use 'our charge card':

 Price = price*0.9 // maybe *0.95*0.95 (not clear)

 Else:

 Price = price*0.95

 Else:

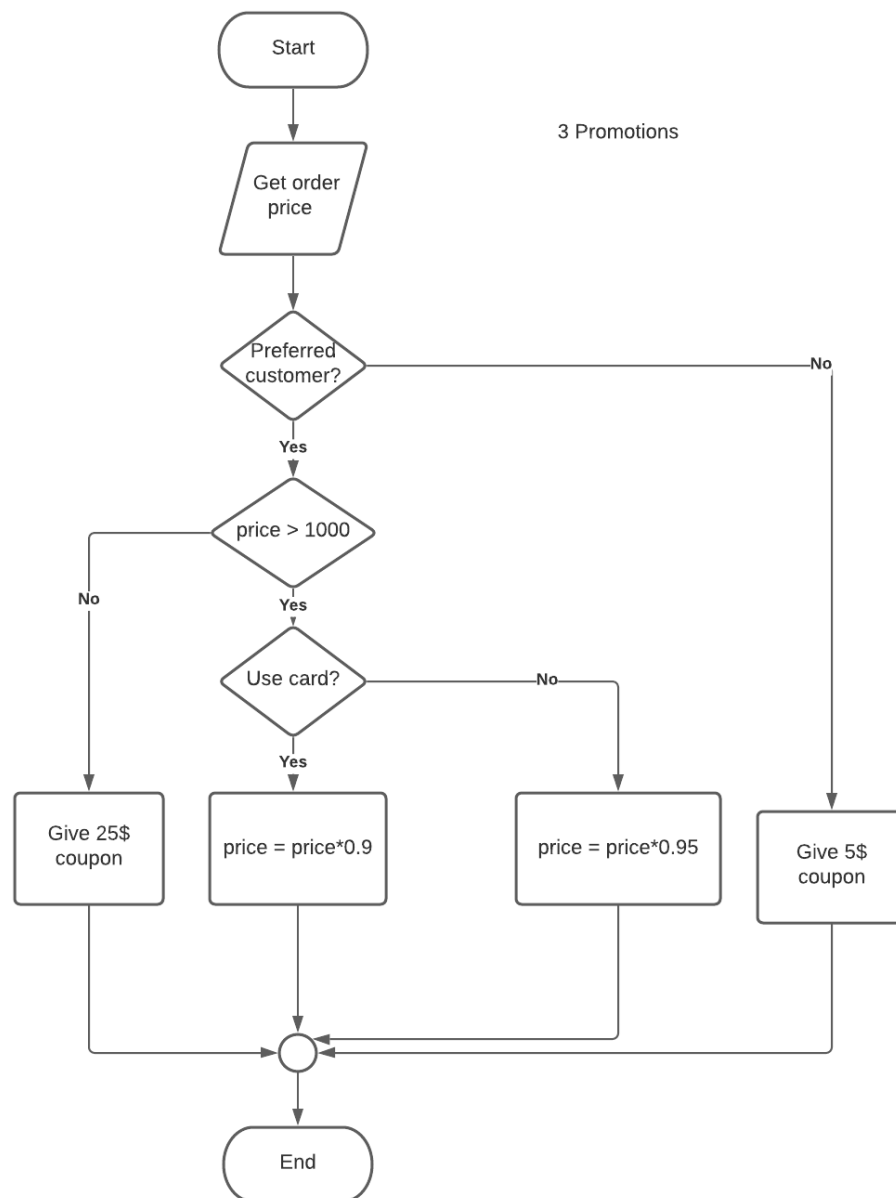
 Give 25\$ coupon

Else:

 Give 5\$ bonus coupon

END

2. Flowchart



3. Testcase

Test case	Inputs	Expected Results	Coverage
Preferred Customer, no card	Order for 1000 Don't use the card	Give 25\$ coupon	2-11
Preferred Customer, no card	Order for 999.99 Don't use the card	Give 25\$ coupon	2-11
Preferred Customer, no card	Order for 1001 Don't use the card	Get price reduction to 950.95	2-11
Preferred Customer, no card	Order for 2000 Don't use the card	Get price reduction to 1900	2-11
Preferred Customer With card	Order for 1000 Use the card	Get 25\$ coupon	2-11
Preferred Customer With card	Order for 999.99 Use the card	Get 25\$ coupon	2-11
Preferred Customer With card	Order for 1001 Use the card	Get price reduction to 900.9	2-11
Preferred Customer With card	Order for 2000 Use the card	Get price reduction to 1800	2-11
Normal Customer, no card	Order for 1000 Don't use the card	Give 5\$ coupon	2-11
Normal Customer, no card	Order for 999.99 Don't use the card	Give 5\$ coupon	2-11
Normal Customer, no card	Order for 1001 Don't use the card	Give 5\$ coupon	2-11
Normal Customer, no card	Order for 2000 Don't use the card	Give 5\$ coupon	2-11
Normal Customer with card	Order for 1000 Use the card	Give 5\$ coupon	2-11
Normal Customer with card	Order for 999.99 Use the card	Give 5\$ coupon	2-11
Normal Customer with card	Order for 1001 Use the card	Give 5\$ coupon	2-11

Normal Customer with card	Order for 2000 Use the card	Give 5\$ coupon	2-11
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Scenario 4: Find all pair...

1. Pseudocode

START

Input list of numbers

Input targeted sum

Init result as empty list []

For each i from 0 to len(list):

 For each j from index1 to len(list):

 If $\text{list}[i] + \text{list}[j] = \text{target}$:

 Add $[\text{list}[i], \text{list}[j]]$ to result list

If result list is not empty:

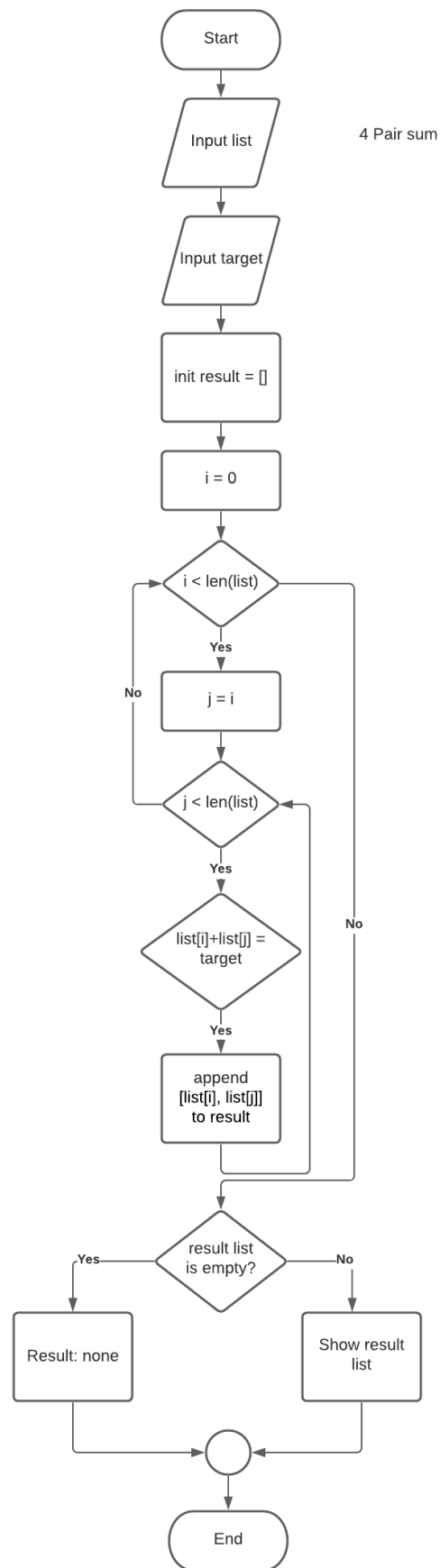
 Print 'Result: ' + result list

Else:

 Print 'Result: none'

END

2. Flowchart



3. Testcase

Test case	Inputs	Expected Results	Coverage
Empty list input	[] 6	Result: none	1-11
Unreachable sum	[1,2,3,4,5] 99	Result: none	1-11
Unreachable sum	[1,2,3,4,5] 0	Result: none	1-11
Normal	[1,2,3,4,5] 6	Result: [1,5], [2,4]	1-11
Normal	[1,2,3,4,5,6,7] 9	Result: [2,7], [3,6], [4,5]	1-11

Scenario 5: Combine 2 lists

1. Pseudocode

START

Input 2 list of numbers

Init state = 0

Init result as empty list []

While list1 and list2 is not empty:

 If state == 0:

 Add list1[0] to result list

 Remove value from list1 at index 0

 State = 1

 Else:

 Add list2[0] to result list

 Remove value from list2 at index 0

 State = 0

While list1 is not empty:

 Add list1[0] to result list

 Remove value at list1[0]

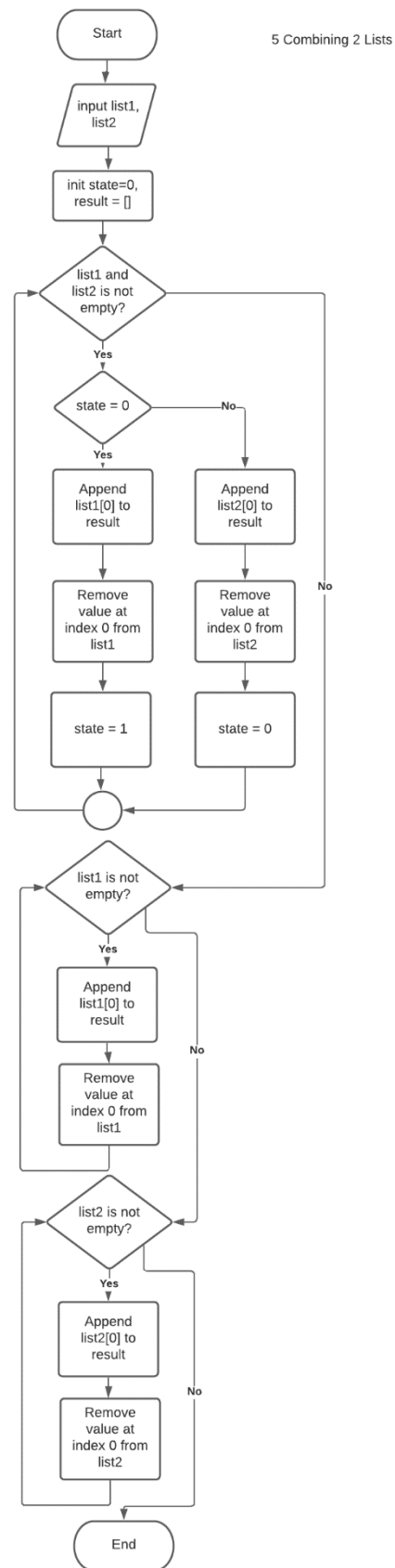
While list2 is not empty:

 Add list2[0] to result list

 Remove value at list2[0]

END

2. Flowchart



3. Testcase

Test case	Inputs	Expected Results	Coverage
Both lists have same length	List1 = [1, 2, 3] List2 = [a, b, c]	[1, a, 2, b, 3, c]	2-11
Both lists have same length	List1 = [1, 2, 3, 4, 5] List2 = [a, b, c, d, e]	[1, a, 2, b, 3, c, 4, d, 5, e]	2-11
Both lists is empty	List1 = [] List2 = []	[]	2-11
List1 is empty	List1 = [] List2 = [a, b, c]	[a, b, c]	2-11
List2 is empty	List1 = [1, 2, 3] List2 = []	[1, 2, 3]	2-11
List1 is longer than List2	List1 = [1, 2, 3] List2 = [a]	[1, a, 2, 3]	2-11
List2 longer than List1	List1 = [1] List2 = [a, b, c]	[1, a, b, c]	2-11

- หากมีข้อผิดพลาดประการใด ขออภัยมา ณ ที่นี้ด้วย
- จะมีการอัปเดตเพิ่มเติมเมื่อได้รับแจ้งข้อผิดพลาด