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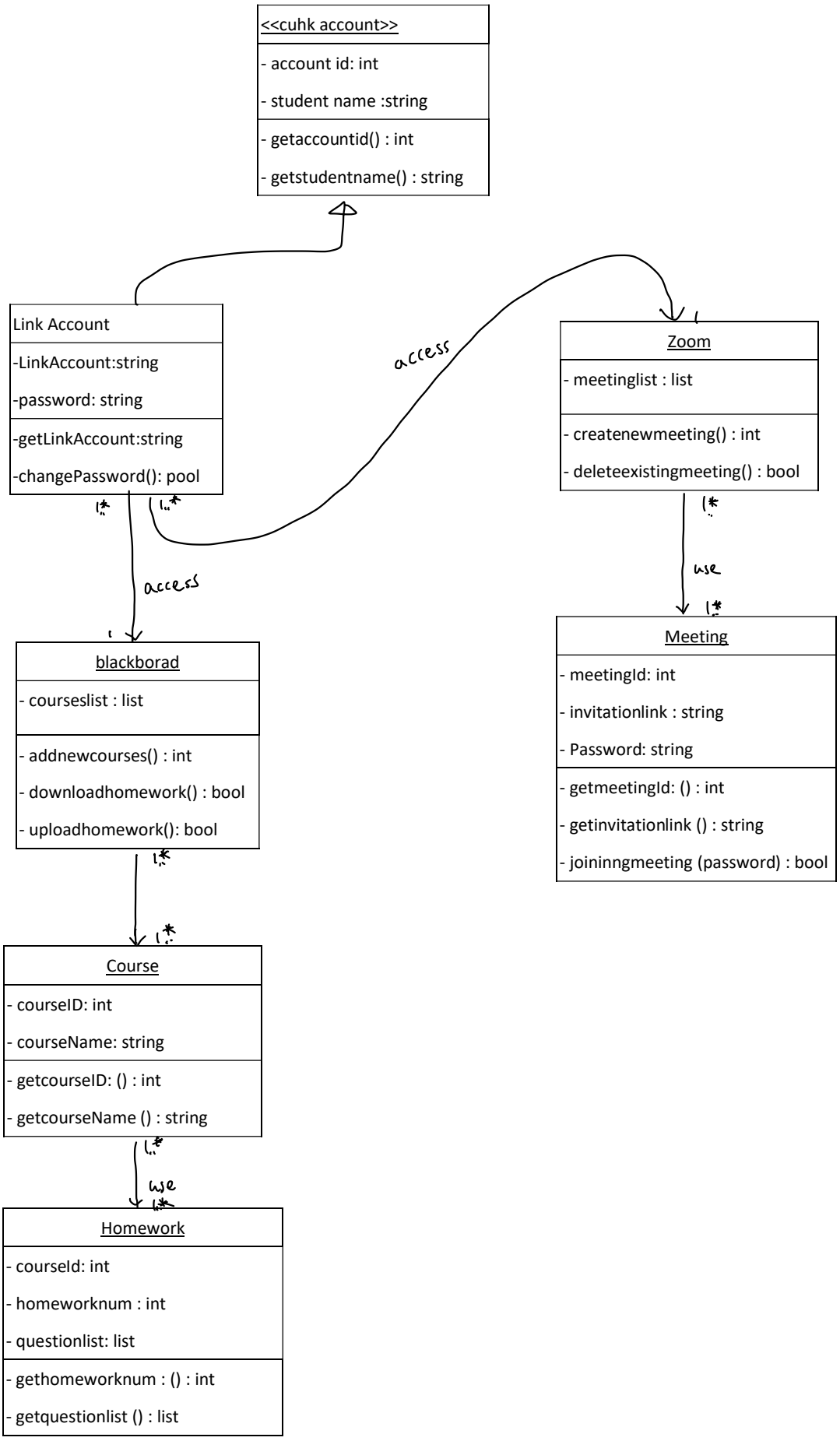
Overall module structure

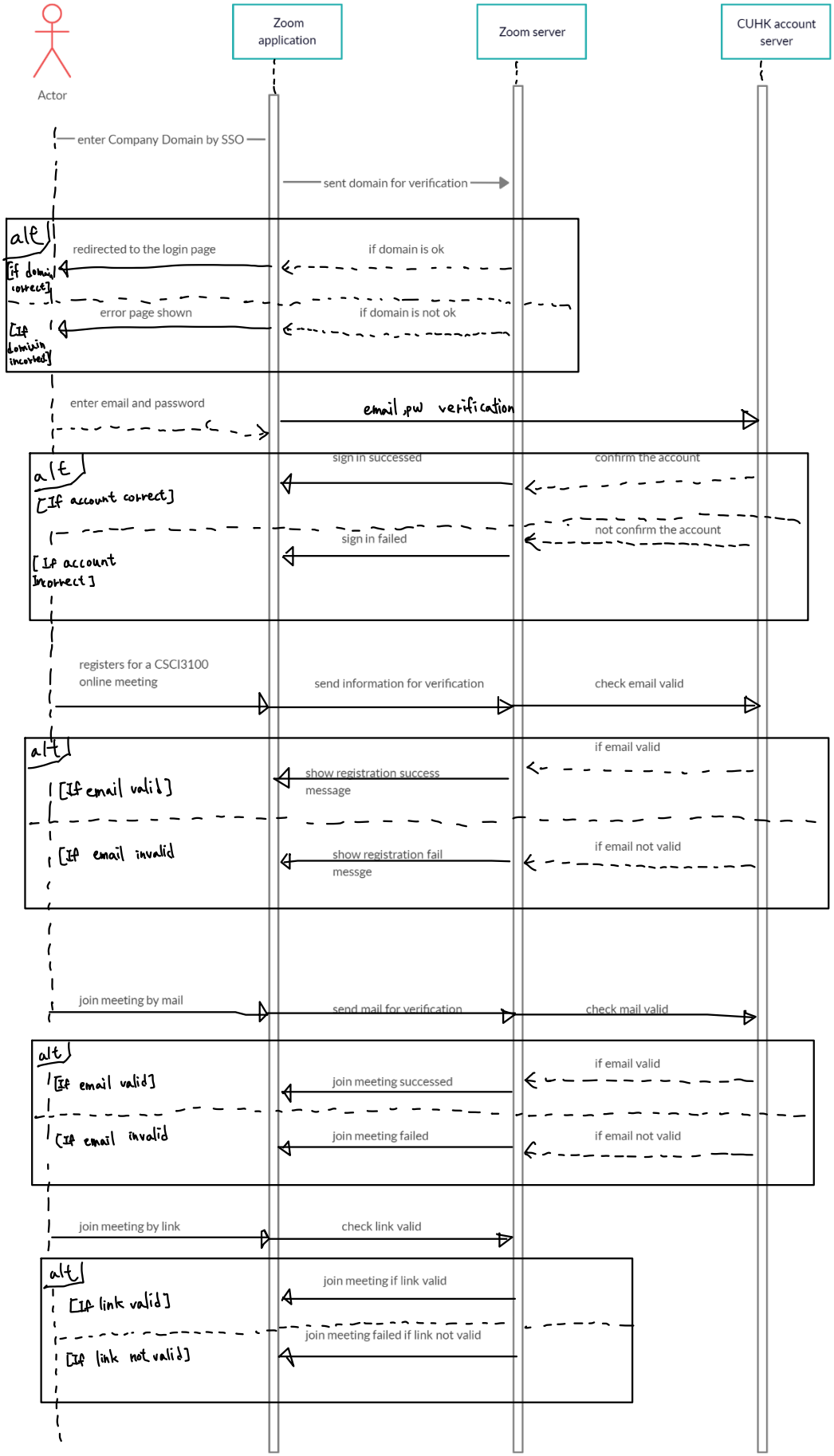
```
SET BOOL = Check_for_ascending_sorting(array,n)
    If BOOL = true
        BOOL = Check_for_prime_sequence(array,n)
        If BOOL = true
            Set newarray = Check for sub-array summation(array, n, C)
        End-if
    End-if
```

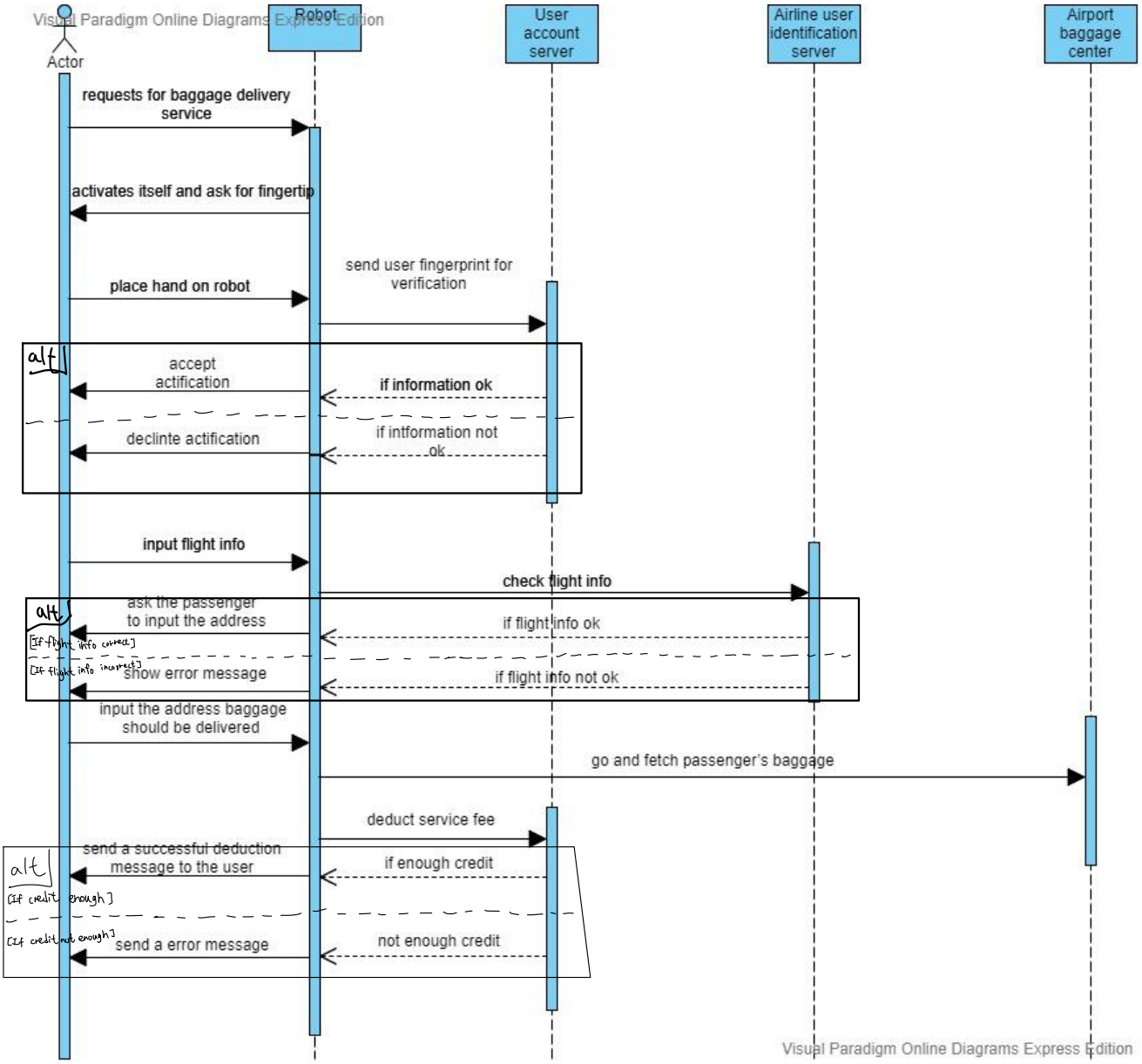
```
Procedure Check_for_ascending_sorting(array,n)

For i = 1 to n-1 do:
    If array [i] < array [i-1]
        Return false
    End-if
End-for
Output “Sorted array in ascending order”
Return True
```

```
Procedure Check_for_prime_sequence(array,n)

For i = 0 to n-1 do:
    Set count = 0
    If array [i] > 1
        For y = 1 to array[i]
            If remainder of array[i] divide y equal to 0
                count += 1
            end-if
        end-for
        if count >2
            return false
        end-if
    Else if array [i] <= 0
        Return false
    end-if
end-for
```

```
Procedure Check for sub-array summation(array, n, C)

    For j = 0 to n-1 do:
        Set SUM = 0
        Set count = 0
        While SUM < C :
            SUM += array[j + n]
            count++
            if SUM > C
                break the while loop
            end-if
            if count > (n-1-j)
                return false
            End-if
            if SUM == C
                Set new array to store sub-array summation
                    For z = j to count :
                    new array[z-j] = array[z]
                    Return New array
                    End-for
            End-if
        End-while
    End-for
```


<<cuhk account>>
- account id: int
- student name :string
- getaccountid() : int
- getstudentname() : string
Link Account
-LinkAccount:string
-password: string
-getLinkAccount:string
-changePassword(): pool
access
Zoom
- meetinglist : list
- createnewmeeting() : int
- deleteexistingmeeting() : bool
access
use
blackborad
- courseslist : list
- addnewcourses() : int
- downloadhomework() : bool
- uploadhomework(): bool
Meeting
- meetingId: int
- invitationlink : string
- Password: string
- getmeetingId: () : int
- getinvitationlink () : string
- joininngmeeting (password) : bool
Course
- courseID: int
- courseName: string
- getcourseID: () : int
- getcourseName () : string
use
Homework
- courseId: int
- homeworknum : int
- questionlist: list
- gethomeworknum : () : int
- getquestionlist () : list


Actor
Zoom application
Zoom server
CUHK account server
enter Company Domain by SSO
sent domain for verification
alt
redirected to the login page
if domain is ok
[If domain correct]
error page shown
if domain is not ok
[If domain incorrect]
enter email and password
email pw verification
alt
sign in successed
confirm the account
[If account correct]
not confirm the account
sign in failed
[If account incorrect]
registers for a CSCI3100 online meeting
send information for verification
check email valid
alt
if email valid
show registration success message
[If email valid]
[If email invalid]
show registration fail messge
if email not valid
join meeting by mail
send mail for verification
check mail valid
alt
if email valid
[If email valid]
join meeting successed
[If email invalid]
join meeting failed
if email not valid
join meeting by link
check link valid
alt
join meeting if link valid
[If link valid]
join meeting failed if link not valid
[If link not valid]


Visual Paradigm Online Diagrams Express Edition
Actor
Robot
User account server
Airline user identification server
Airport baggage center
requests for baggage delivery service
activates itself and ask for fingertip
send user fingerprint for verification
place hand on robot
alt
accept actification
if information ok
declinte actification
if intformation not ok
input flight info
check flight info
alt
ask the passenger to input the address
if flight info ok
[If flight info correct]
[If flight info incorrect]
show error message
if flight info not ok
input the address baggage should be delivered
go and fetch passenger's baggage
deduct service fee
send a successful deduction message to the user
if enough credit
alt
[If credit enough]
[If credit not enough]
send a error message
not enough credit
Visual Paradigm Online Diagrams Express Edition

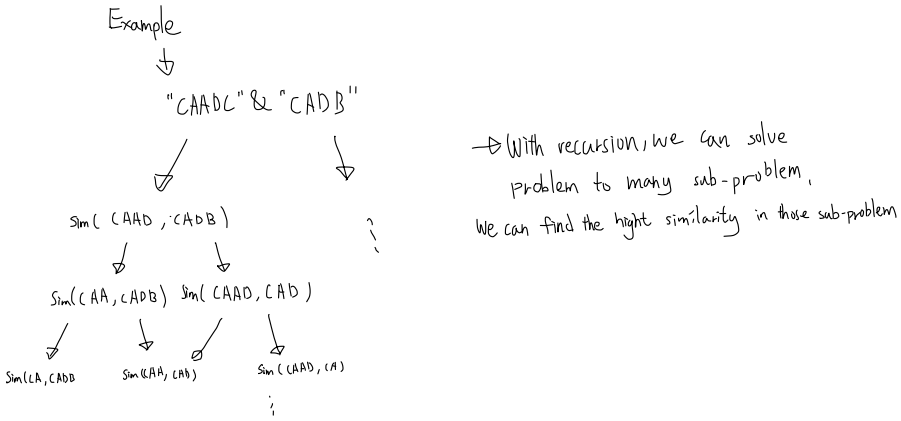
4 (1)

Private key	*Public key*	*Similarity Score*
CAADC	CADB	3/5
CAADC	CADC	4/5
ABCDAB	ACAB	4/6
ABCDAB	ACDAB	5/6
ADBACDDAAB	ADACDDB	7/10
ADBACDDAAB	ADBCDADAB	8/10

1.3/5 2.4/5 3.4/6 4.5/6 5.7/10 6.8/10

(2)

```
if (m == 0 || n == 0)
        return 0;
    if (X[m-1] == Y[n-1])
        return 1 + sim(X, Y, m-1, n-1);
    else
        return max(lcs(X, Y, m, n-1), sim(X, Y, m-1, n));
```



(3)

```
        int max(int a, int b);
    int sim( char *X, char *Y, int m, int n )
{
    int L[m + 1][n + 1];
    int i, j;
    for (i = 0; i <= m; i++)
    {
        for (j = 0; j <= n; j++)
        {
        if (i == 0 || j == 0)
            L[i][j] = 0;

        else if (X[i - 1] == Y[j - 1])
            L[i][j] = L[i - 1][j - 1] + 1;
        else
            L[i][j] = max(L[i - 1][j], L[i][j - 1]);
        }
    }

int main()
{
    char X[] = "CAADC";
    char Y[] = "CADB";

    int m = strlen(X);
    int n = strlen(Y);

    cout << "Length of sim is "
         << (sim( X, Y, m, n )/ m);
    return 0;
}
```