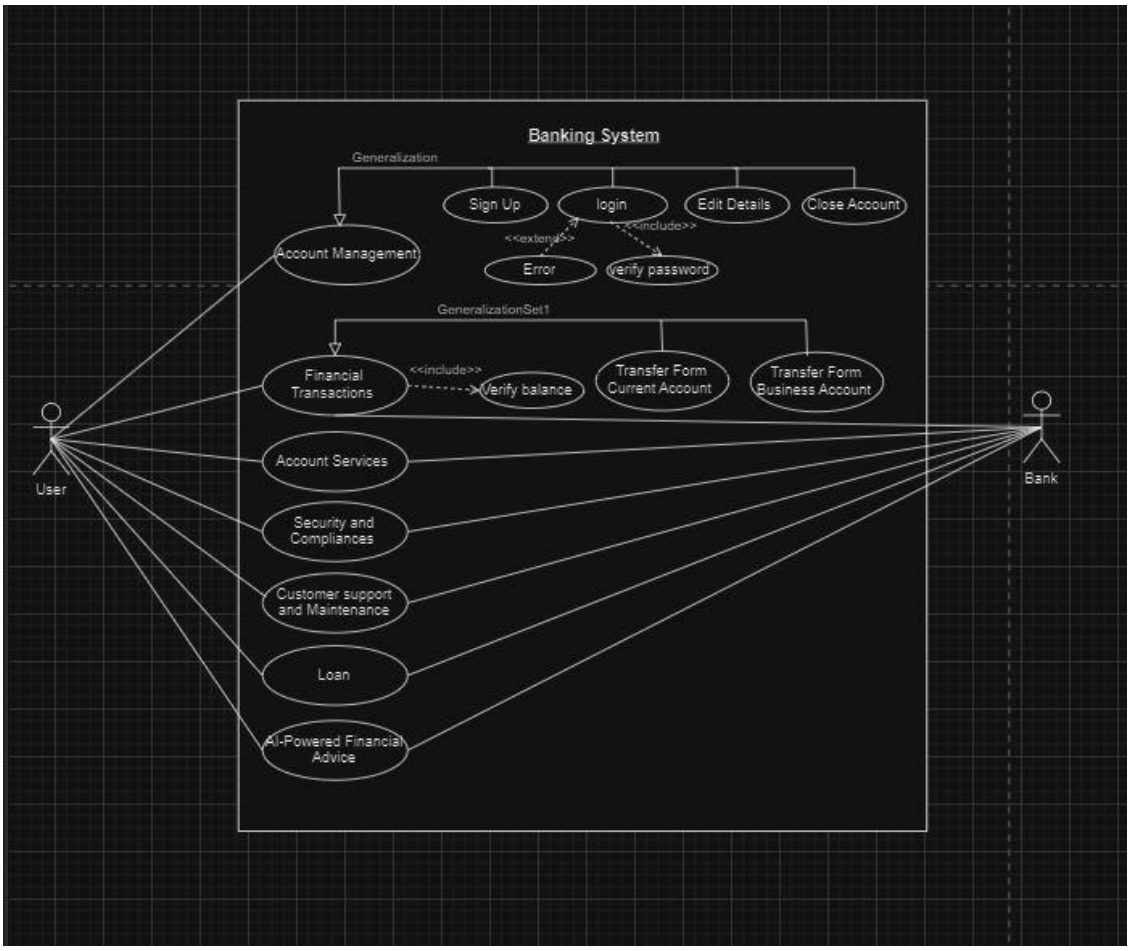
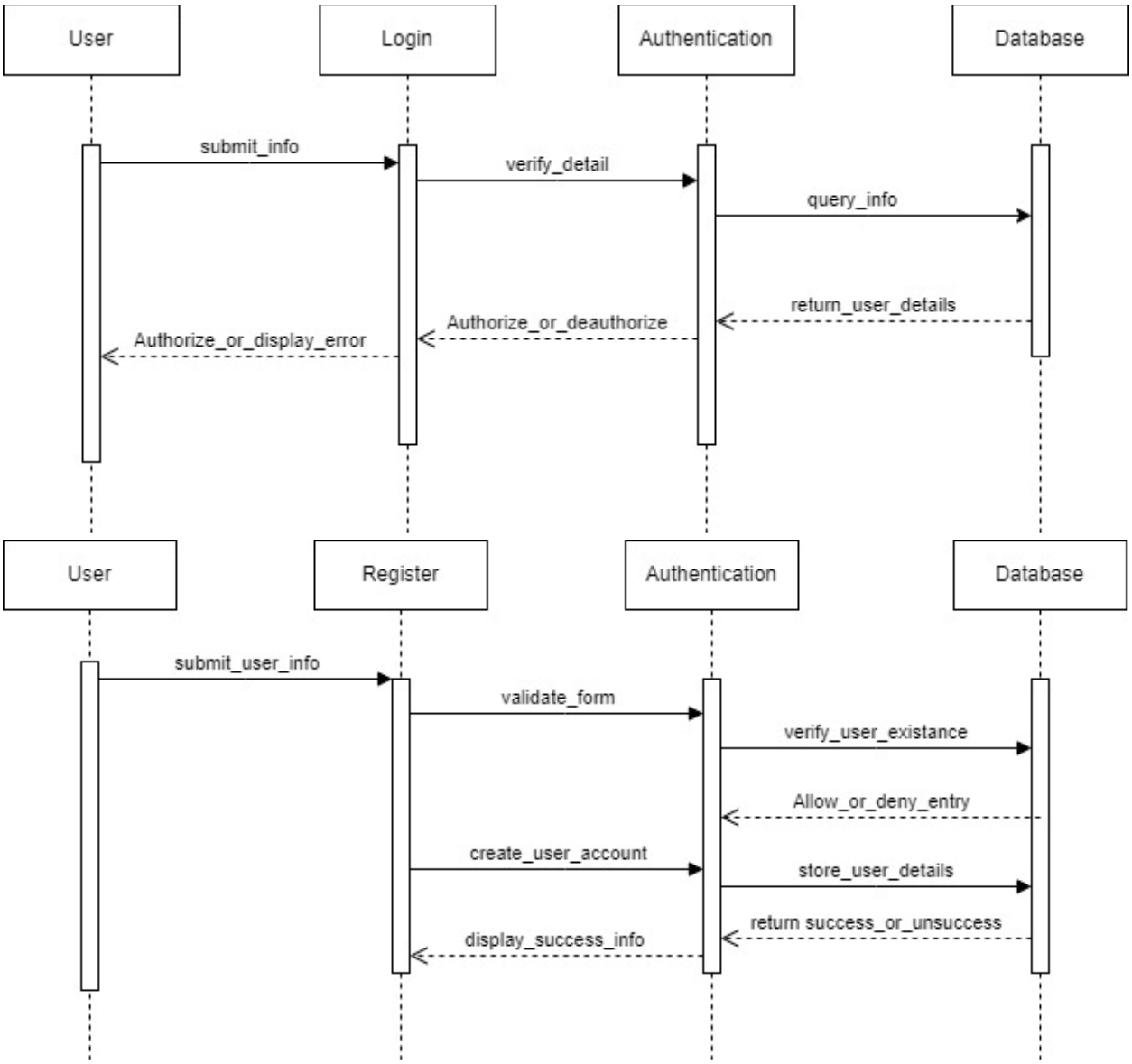
1) Behavioral Diagram

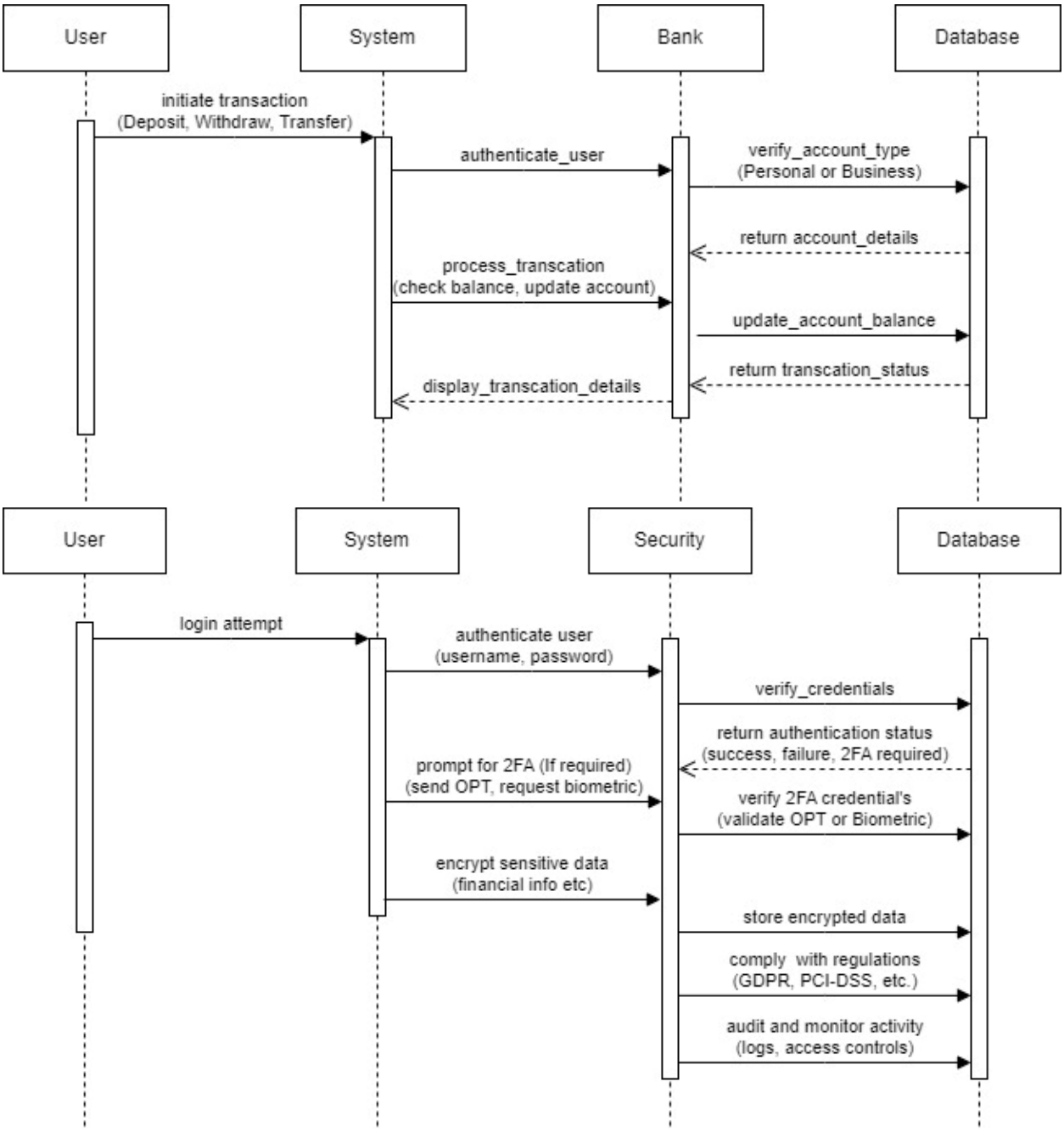
- ## Use Case Diagram

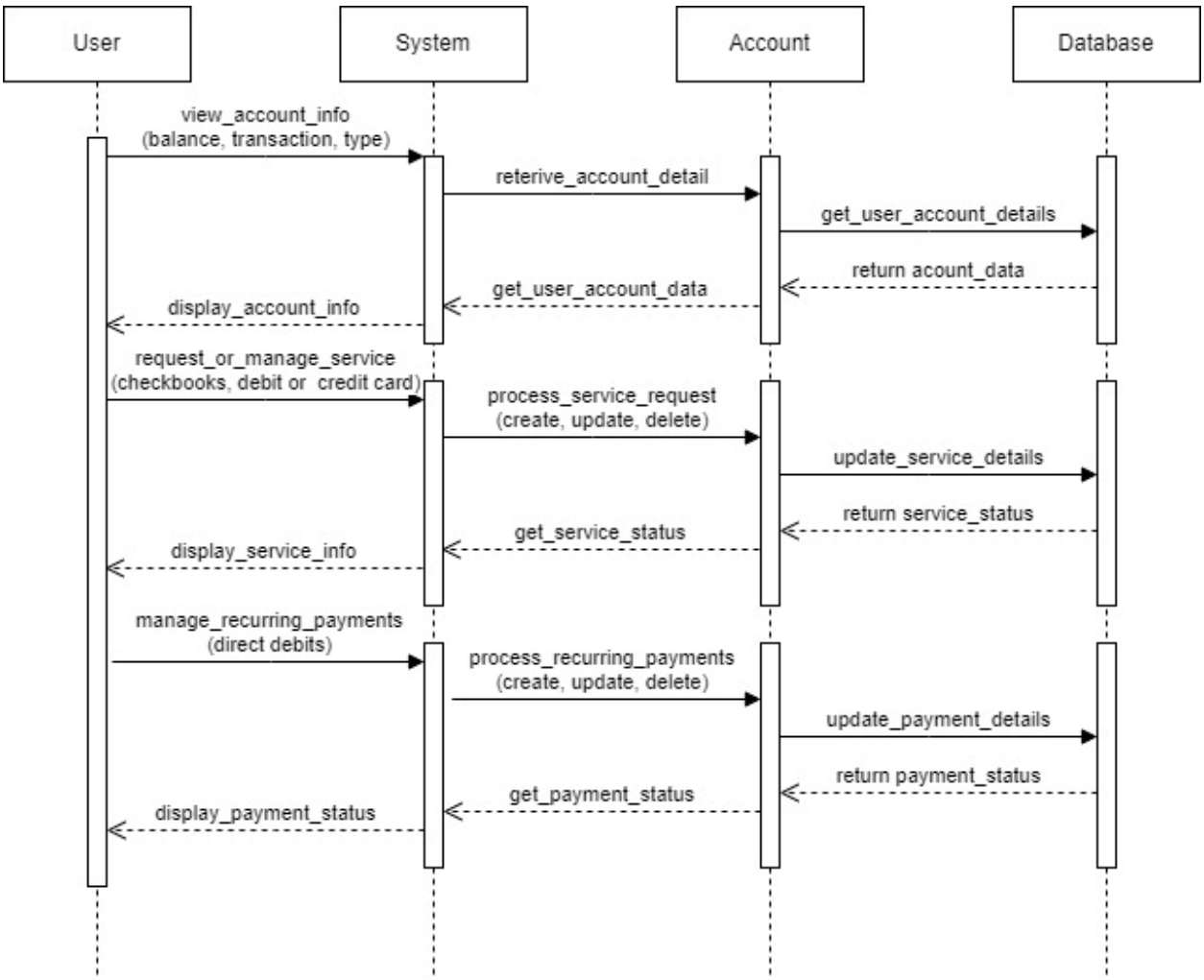
This is our use case diagram that help us to understand the system functionality, identify our actors and clarify our system boundaries. It provide foundation for our system, help use to priorities the features of our system.

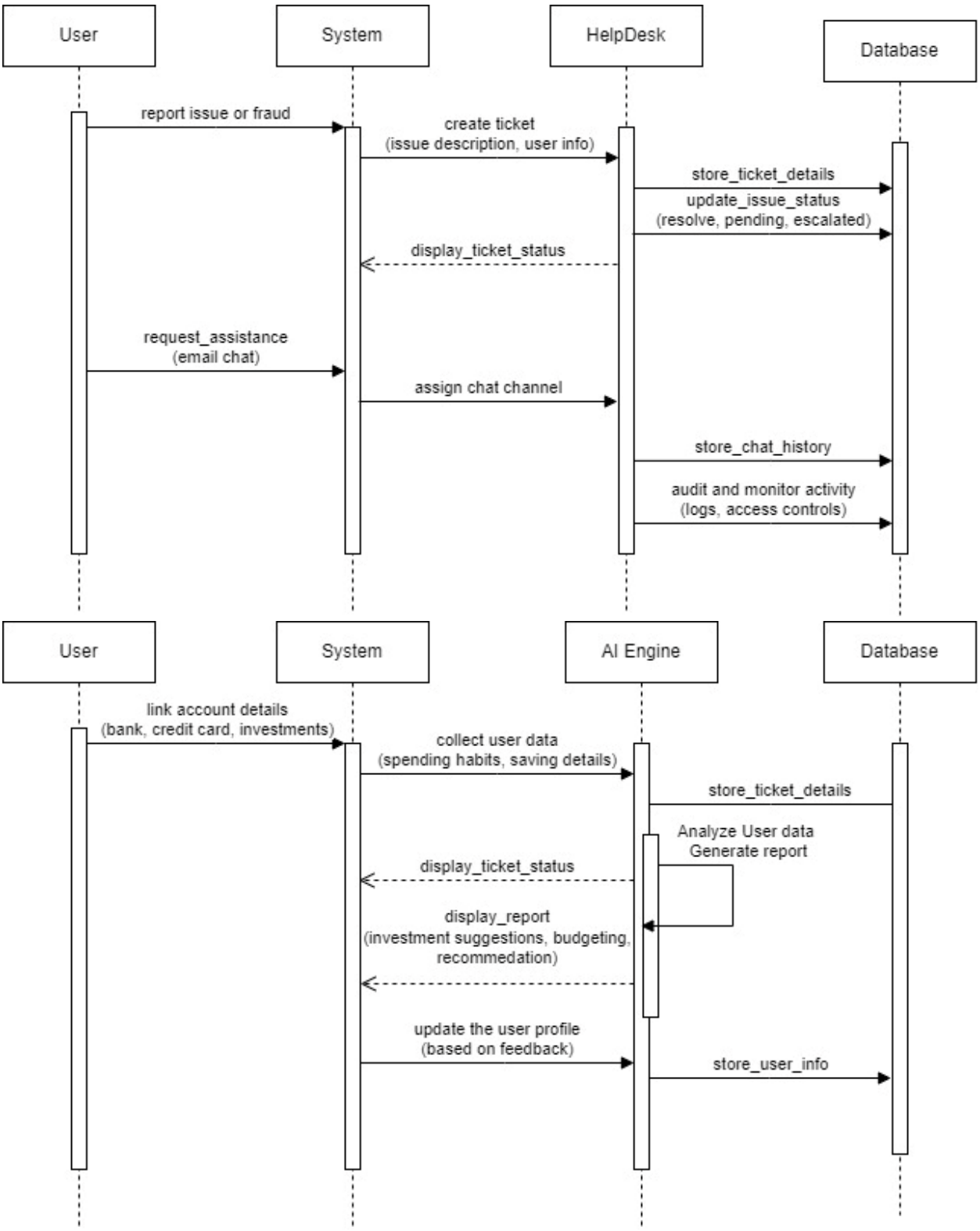


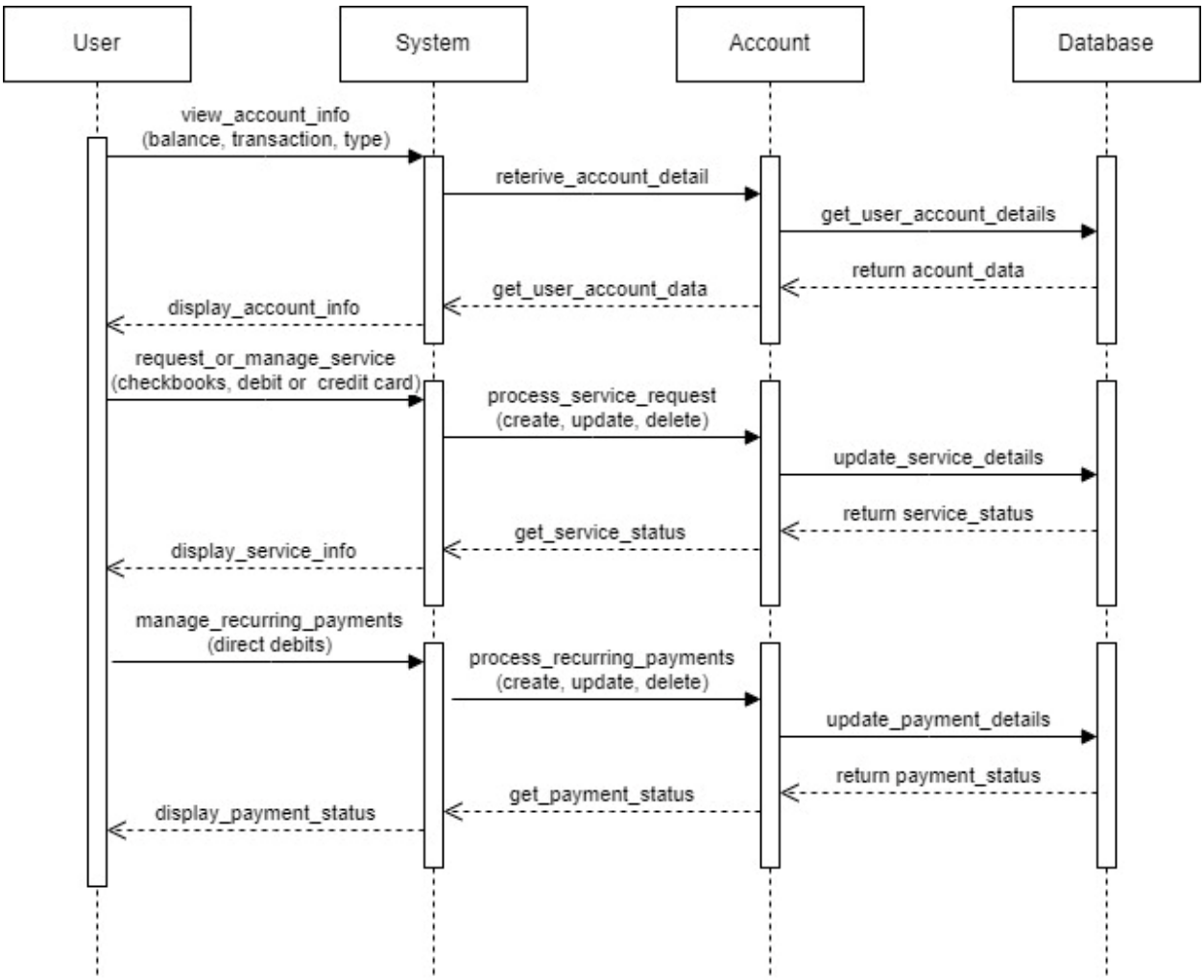
- **Sequence Diagram**




User
System
Bank
Database
initiate transaction
(Deposit, Withdraw, Transfer)
authenticate_user
verify_account_type
(Personal or Business)
return account_details
process_transcation
(check balance, update account)
update_account_balance
return transcation_status
display_transcation_details
User
System
Security
Database
login attempt
authenticate user
(username, password)
verify_credentials
return authentication status
(success, failure, 2FA required)
prompt for 2FA (If required)
(send OPT, request biometric)
verify 2FA credential's
(validate OPT or Biometric)
encrypt sensitive data
(financial info etc)
store encrypted data
comply with regulations
(GDPR, PCI-DSS, etc.)
audit and monitor activity
(logs, access controls)


User
System
Account
Database
view_account_info
(balance, transaction, type)
reterive_account_detail
get_user_account_details
return acount_data
get_user_account_data
display_account_info
request_or_manage_service
(checkbooks, debit or credit card)
process_service_request
(create, update, delete)
update_service_details
return service_status
get_service_status
display_service_info
manage_recurring_payments
(direct debits)
process_recurring_payments
(create, update, delete)
update_payment_details
return payment_status
get_payment_status
display_payment_status

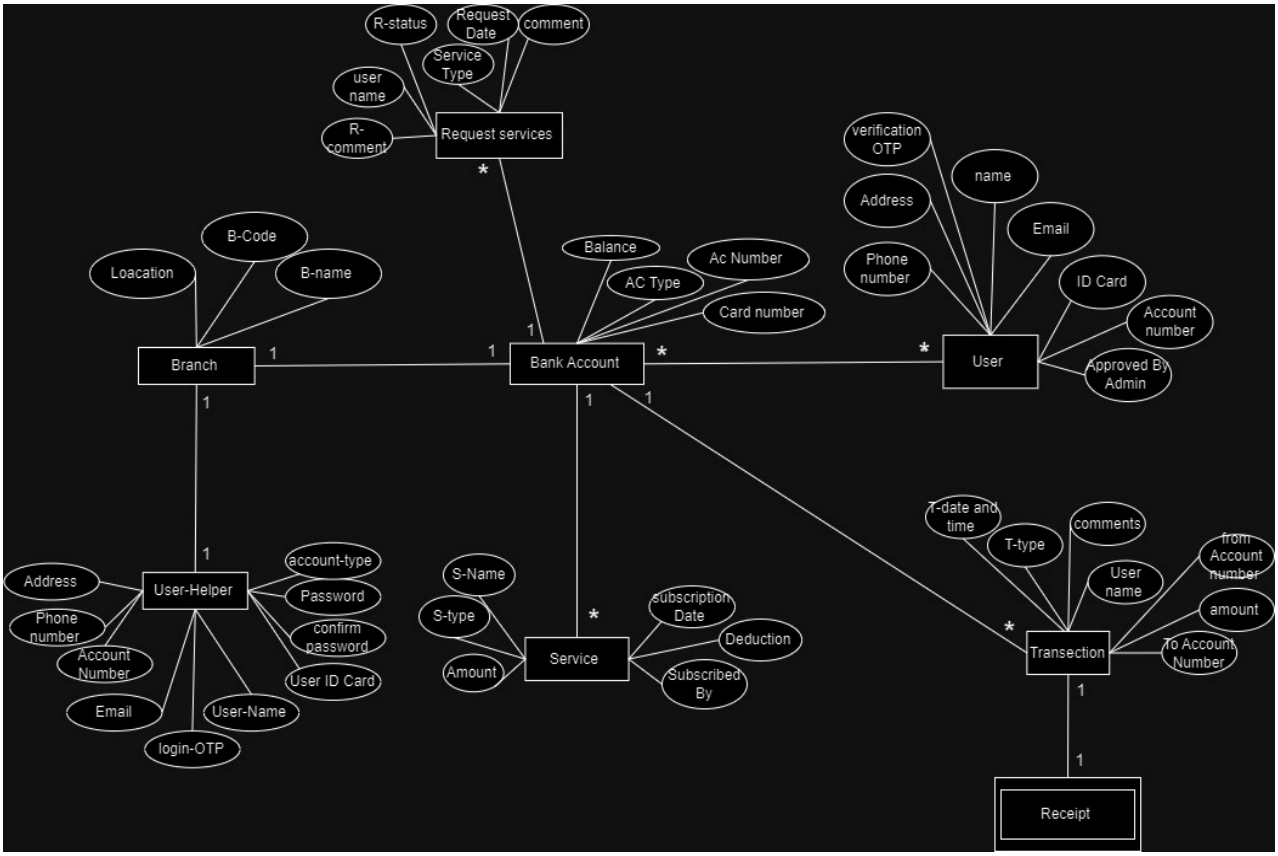

User
System
HelpDesk
Database
report issue or fraud
create ticket
(issue description, user info)
store_ticket_details
update_issue_status
(resolve, pending, escalated)
display_ticket_status
request_assistance
(email chat)
assign chat channel
store_chat_history
audit and monitor activity
(logs, access controls)
User
System
AI Engine
Database
link account details
(bank, credit card, investments)
collect user data
(spending habits, saving details)
store_ticket_details
Analyze User data
Generate report
display_ticket_status
display_report
(investment suggestions, budgeting,
recommedation)
update the user profile
(based on feedback)
store_user_info


User
System
Account
Database
view_account_info
(balance, transaction, type)
reterive_account_detail
get_user_account_details
return acount_data
get_user_account_data
display_account_info
request_or_manage_service
(checkbooks, debit or credit card)
process_service_request
(create, update, delete)
update_service_details
return service_status
get_service_status
display_service_info
manage_recurring_payments
(direct debits)
process_recurring_payments
(create, update, delete)
update_payment_details
return payment_status
get_payment_status
display_payment_status

2) Structural Diagram

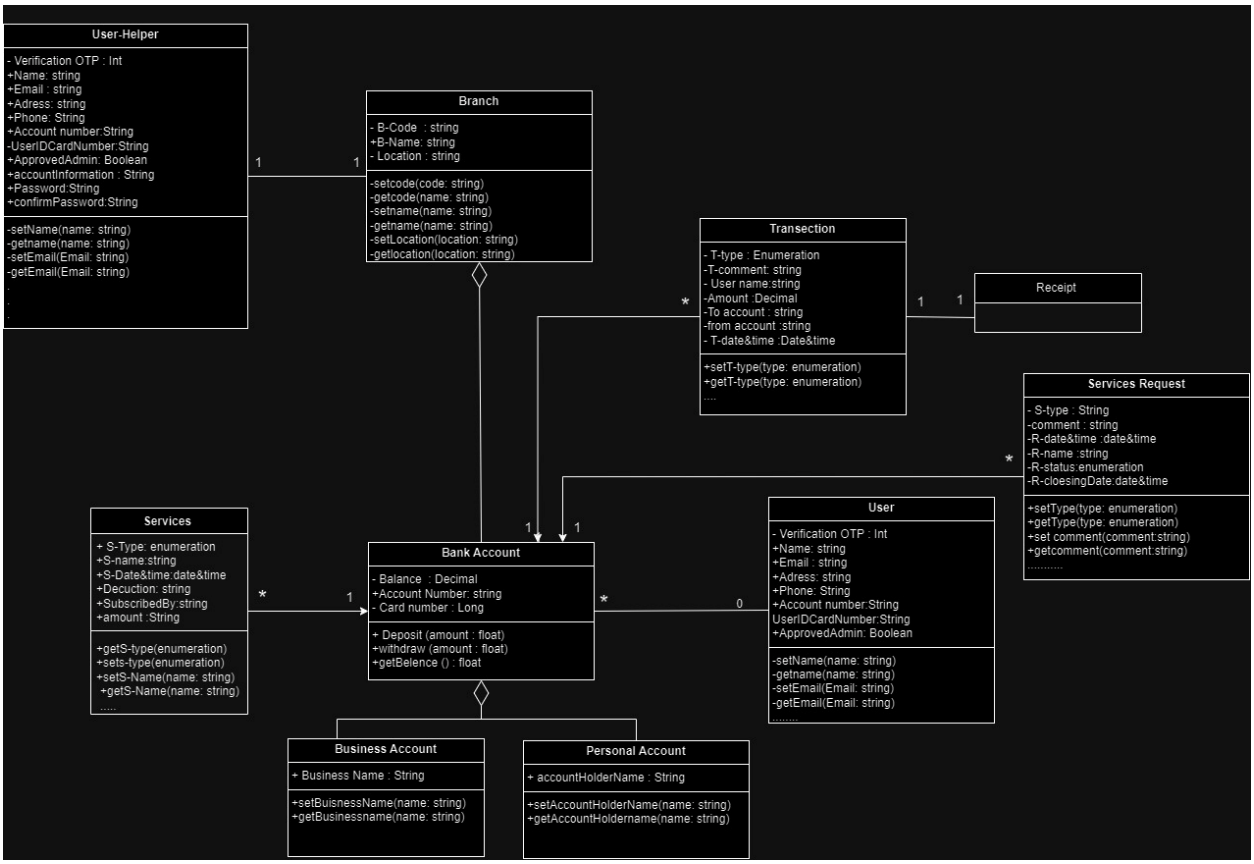
- **ER Diagram**

ER diagram provides us overall graphical structure of over all database, it present the relationship between different entities in database. It is used to models the real-world objects.



- ## Class Diagram

Class Diagram provides us high level information of our system that will help us to communicate and document. In a class diagram objects are instance of classes and each class have its own attributes and methods.



- **Chart Of Activities(PERT)**

Activity Description	Immediate Predecessor	Time Estimate			Expected Time
		t_o	t_m	t_p	$D=(t_o+t_m+t_p)/6$
A: Project planning	None	2	3	4	**3**
B: Meetings	A	1	2	3	**2**
C: Project scheduling	B	2	3	6	**4**
D: Scope management	C	1	2	3	**2**
E: Risk management	C	1	2	5	**3**
F: Requirement gathering	C	8	10	12	**10**
G: Requirement specification	F	3	5	9	**6**
H: Designing prototypes	C	2	4	6	**4**
I: Designing database	H	4	5	8	**6**
J: Designing document	I	6	7	10	**8**
K: Development planning	J	1	2	3	**2**
L: Develop World Directory module	K	5	6	9	**7**
M: Develop Tourist Guide module	K	5	8	10	**8**
N: Develop Map Styling module	L,M,R	4	7	10	**7**
O: Develop Routes and Directions module	L,M,R	3	4	6	**5**
P: Develop Augmented Reality module	S,T	3	5	7	**5**
Q: Develop Favorite Destination module	S,T	2	3	4	**3**
R: Develop Places Details module	K	5	6	9	**7**
S: Develop Push Notification module	N,O	4	5	6	**5**
T: Develop Search Nearby Places AR	N,O	2	6	7	**6**
U: Testing	L,M,N,O,P, Q,R,S,T	2	5	8	**5**
V: Deployment	U	1	3	5	**3**

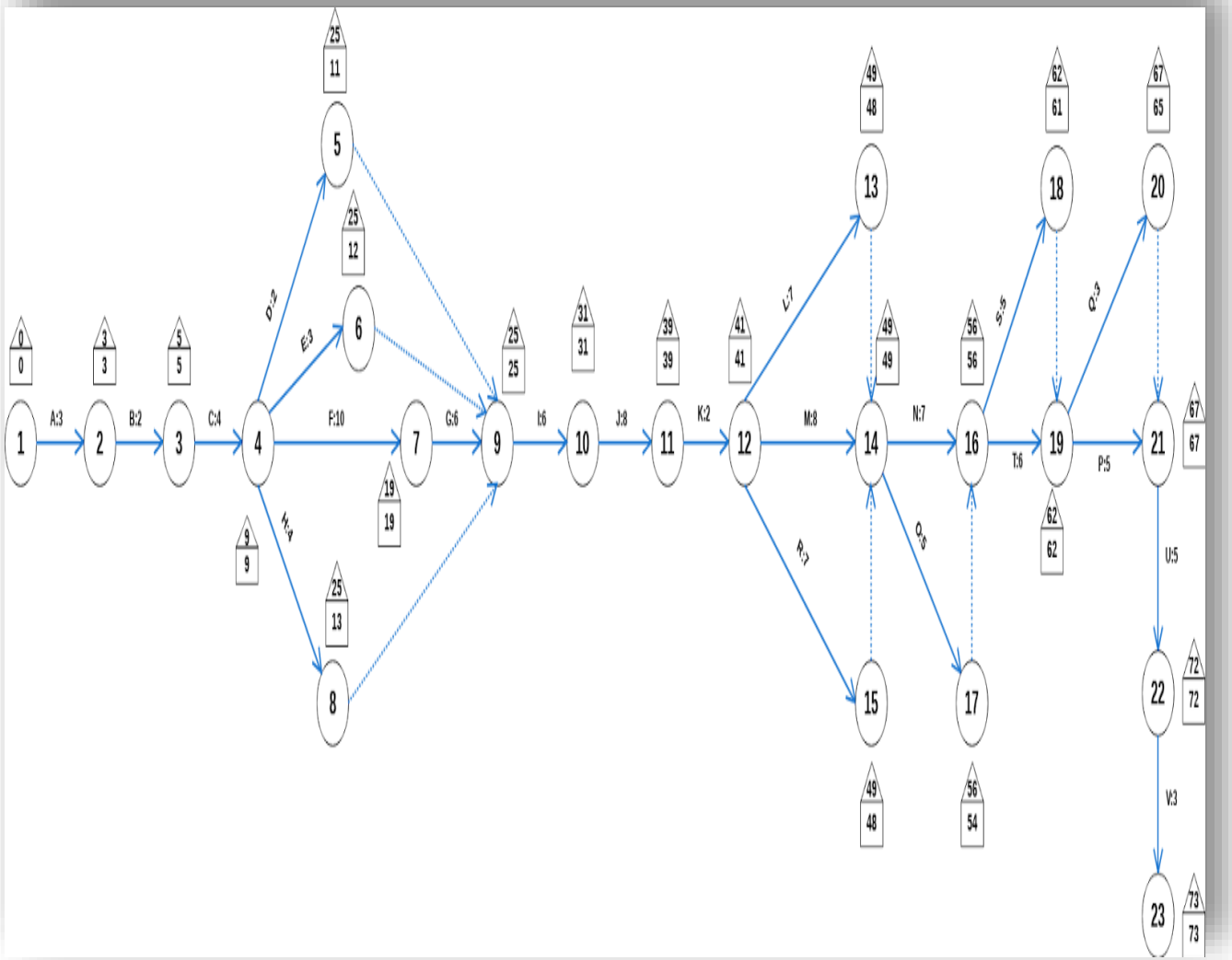
- **Activity chart**

Activity	Immediate predecessor	Duration (Weeks)
A	None	3
B	A	2
C	B	4

D	C	2
E	C	3
F	C	10
G	F	6
H	C	4
I	H	6
J	I	8
K	J	2
L	K	7
M	K	8
N	L,M,R	7
O	L,M,R	5
P	S,T	5
Q	S,T	3
R	K	7
S	N,O	5
T	N,O	6
U	L,M,N,O,P,Q,R,S,T	5
V	U	3

- **Project schedule**

AOA Network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23
A:3
B:2
C:4
D:2
E:3
F:10
G:6
H:4
I:6
J:8
K:2
L:7
M:8
N:7
O:8
P:5
Q:3
R:2
S:5
T:6
U:5
V:3
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5 5
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9 9
25 13
19 19
25 25
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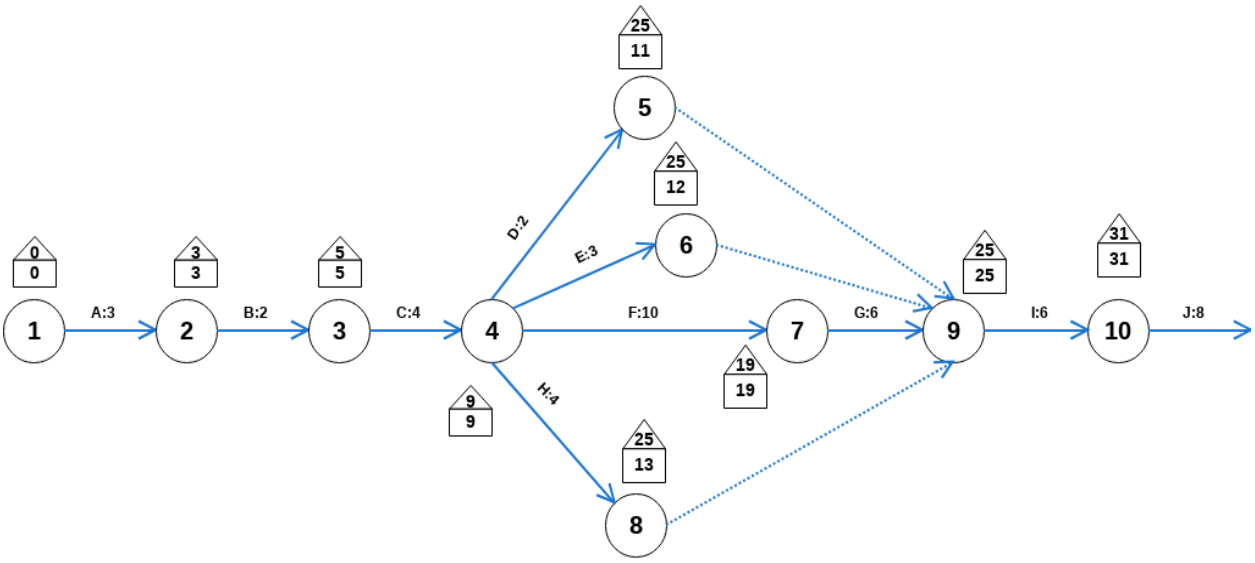
73 73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B:2
C:4
D:2
E:3
F:10
G:6
H:4
I:6
J:8
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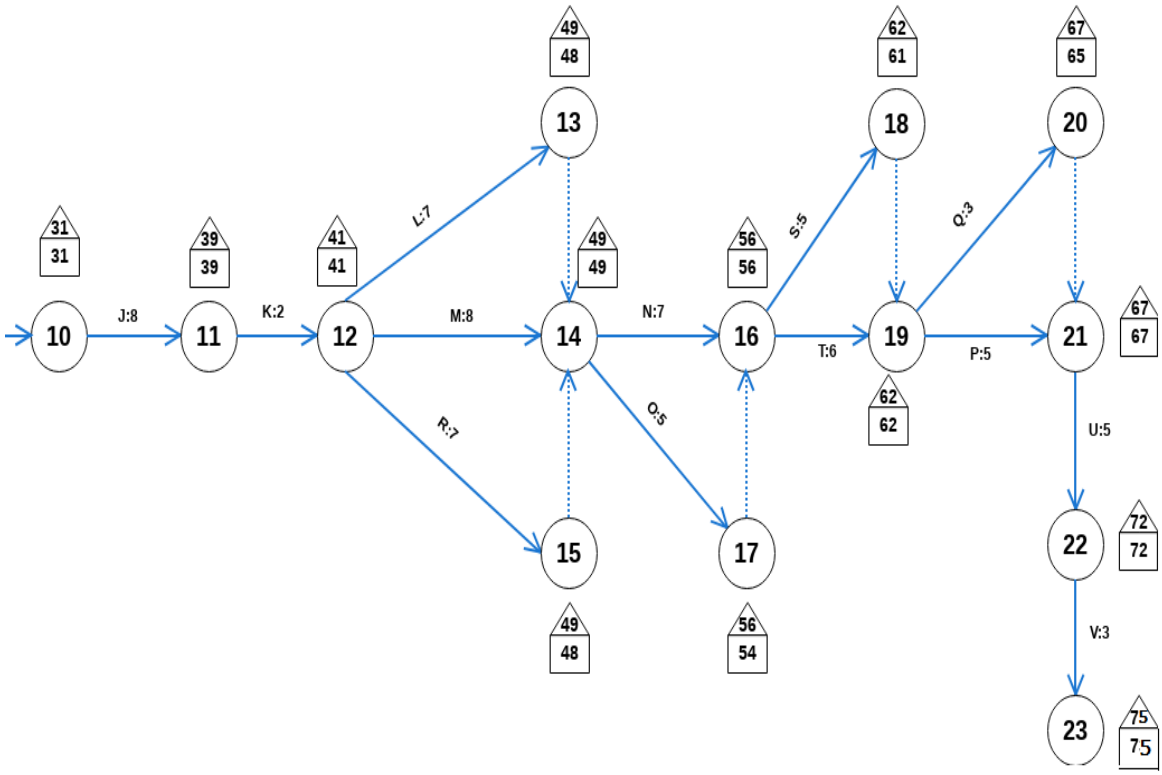
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N:7
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R:7
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75
75

- **Critical Path**

A:3 B:2 C:4 F:10 G:6 I:6 J:8 K:2 M:8 N:7 T:6 P:5 U:5 V:3

Expected project Duration = 75 days