

Non-Relational Data Bases 2023/2024  
Group 4

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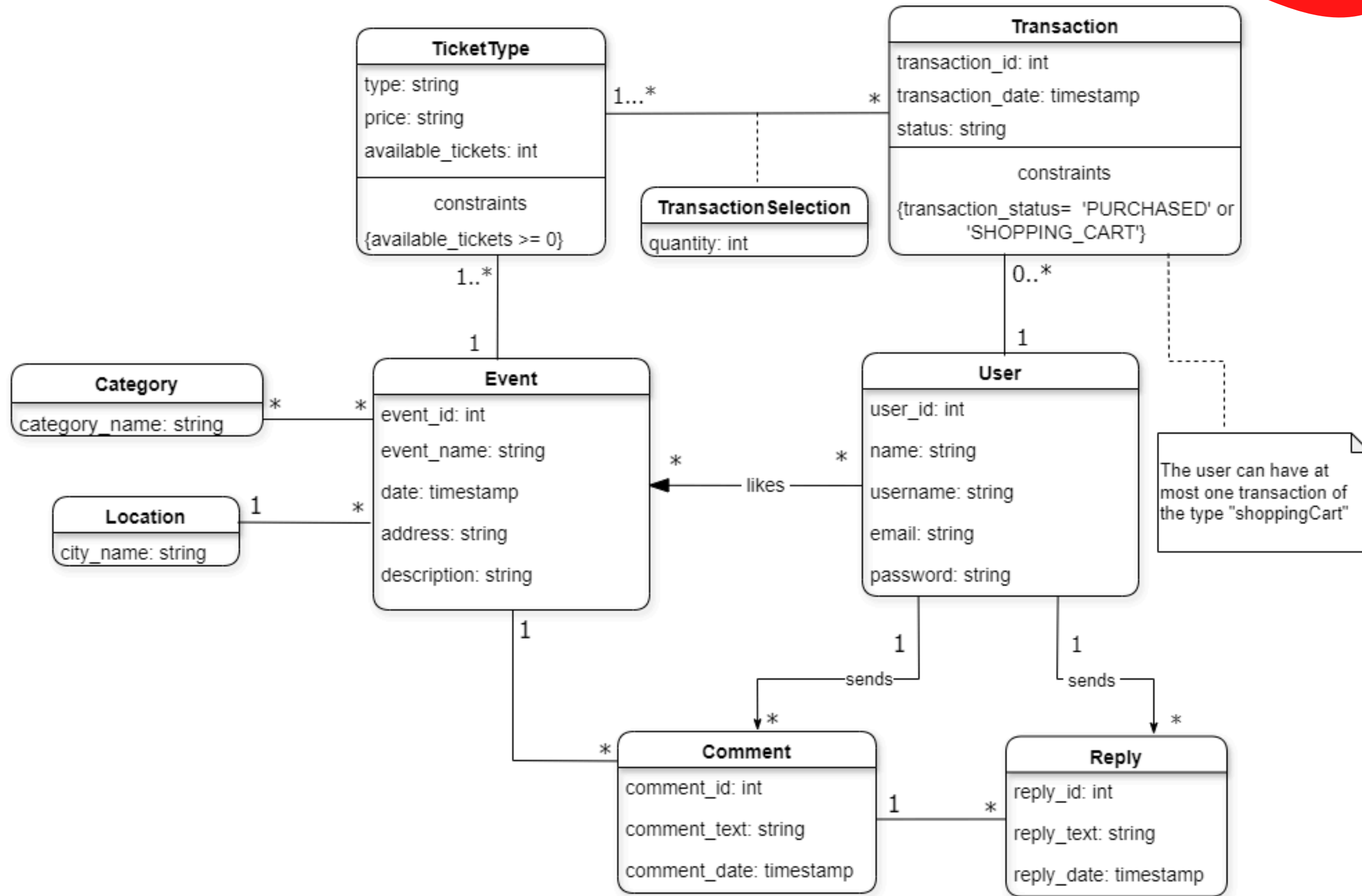
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# QUICK RECAP

- Couchbase is a distributed **document-based** NoSQL database.
- **Memory-centric** architecture and support for **JSON**, facilitating flexible data modeling and quick data access.
- **Distributed caching** and **replication** mechanisms that ensure seamless scalability and fault tolerance, maintaining data consistency and availability.

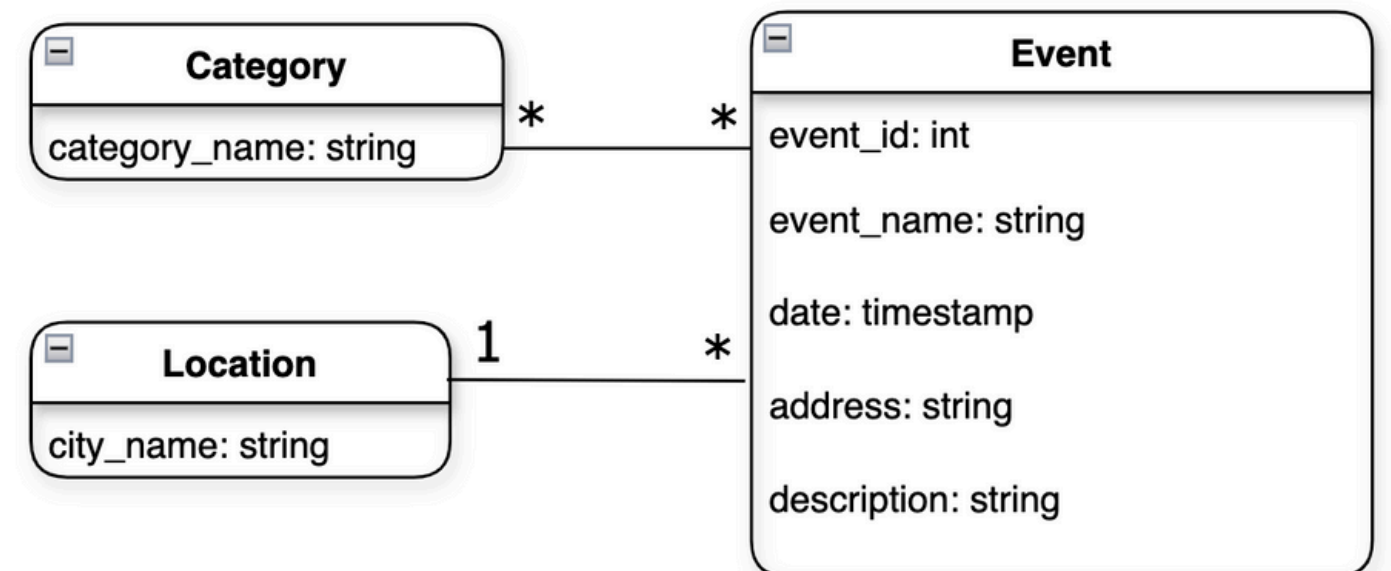


# CONCEPTUAL DATA MODEL



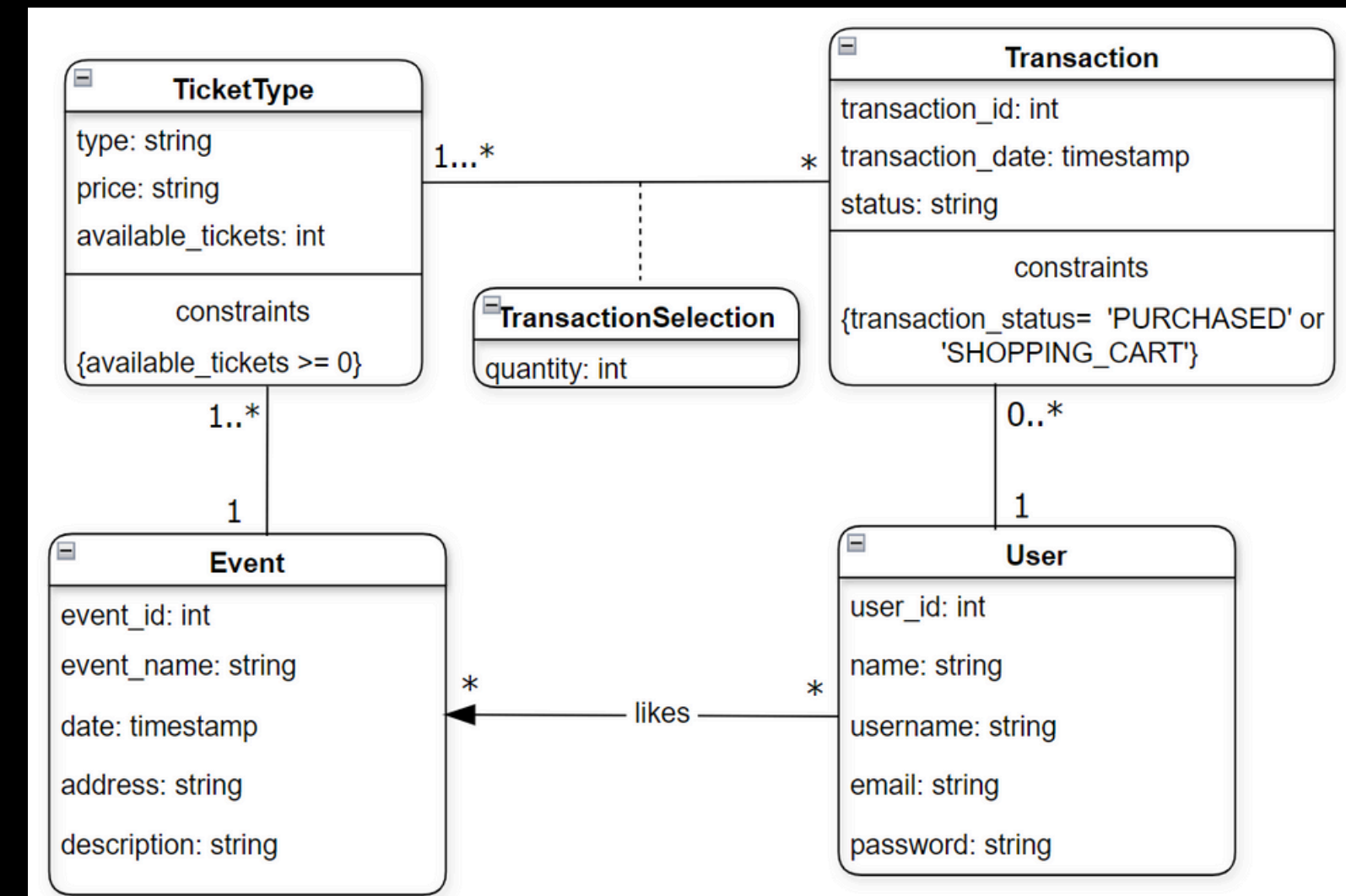
# QUERY #1

Filter events by different fields such as date, location, popularity, category.



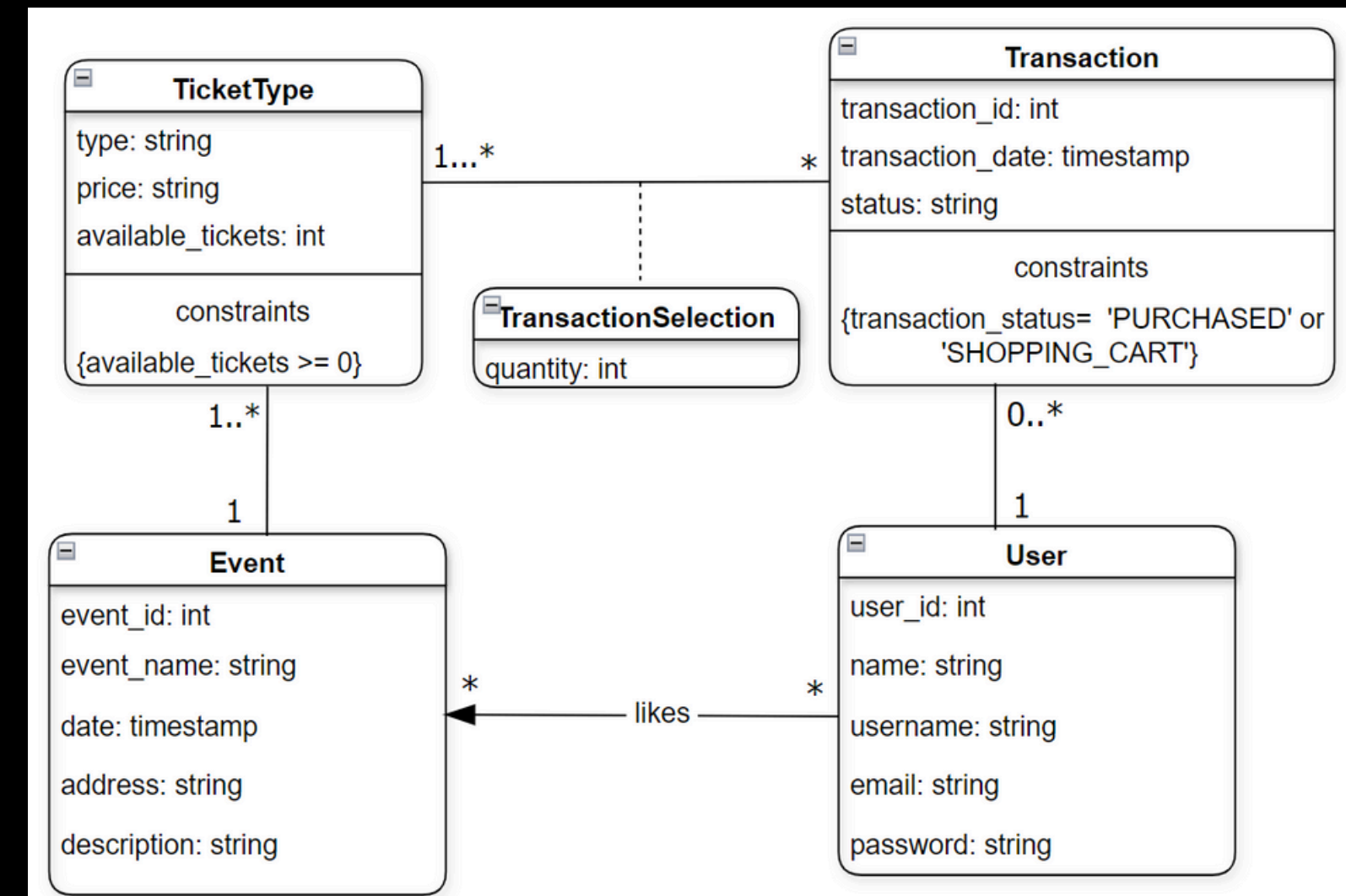
## QUERY #2

Retrieve the user's purchased tickets and filter by date (past and upcoming events).



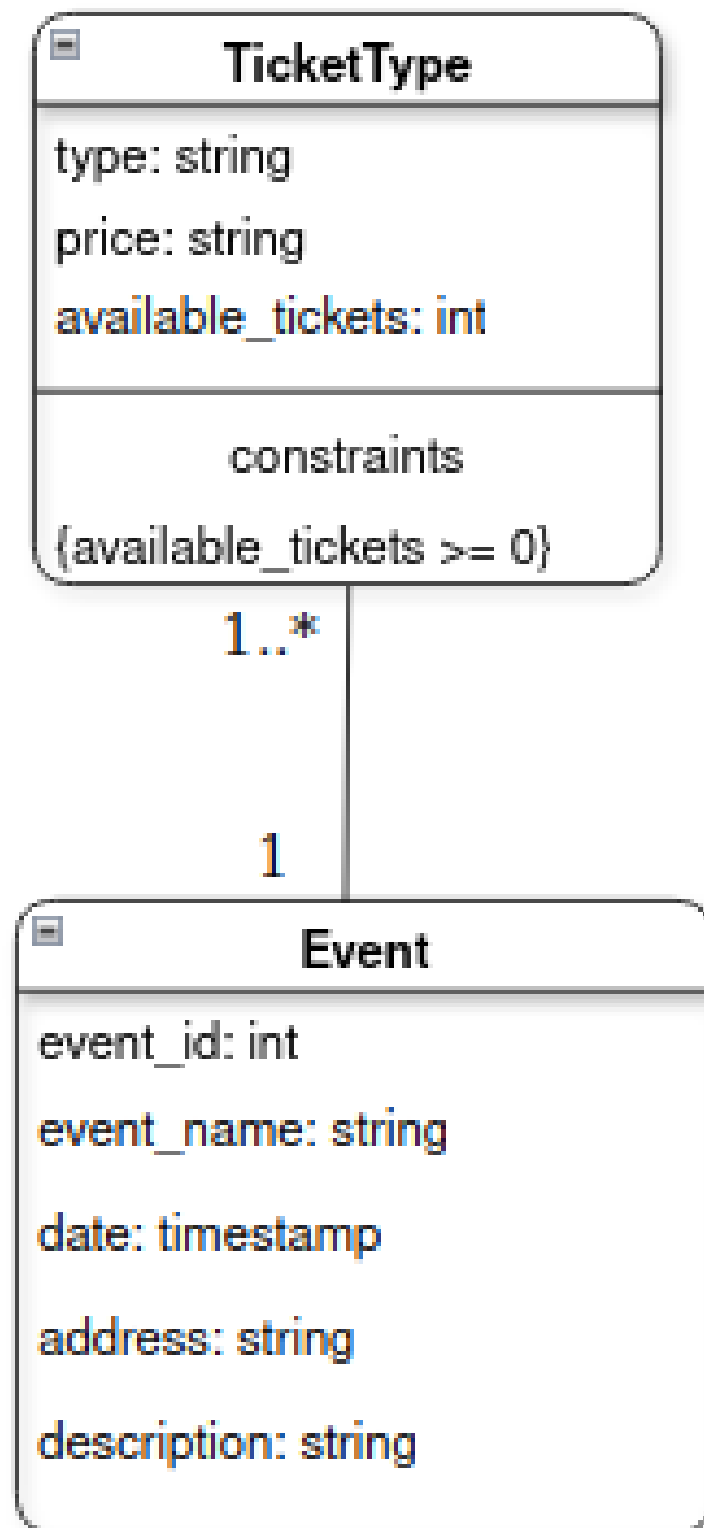
# QUERY #3

Retrieve the user's shopping cart tickets and total price.



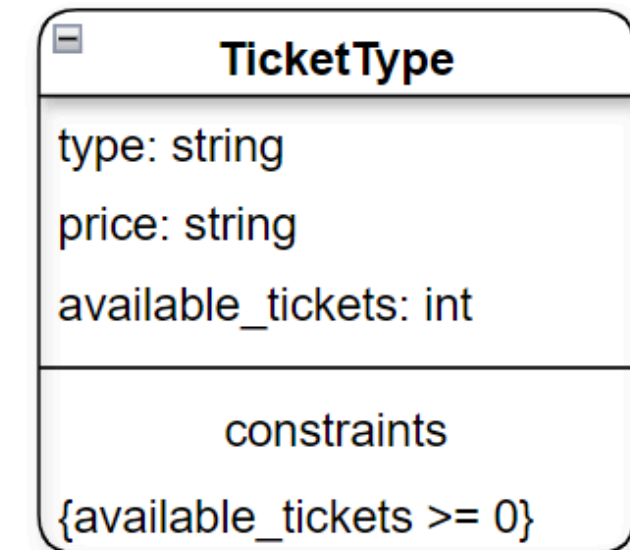
## QUERY #4

Filter the events using a price range defined by a minimum and maximum values.



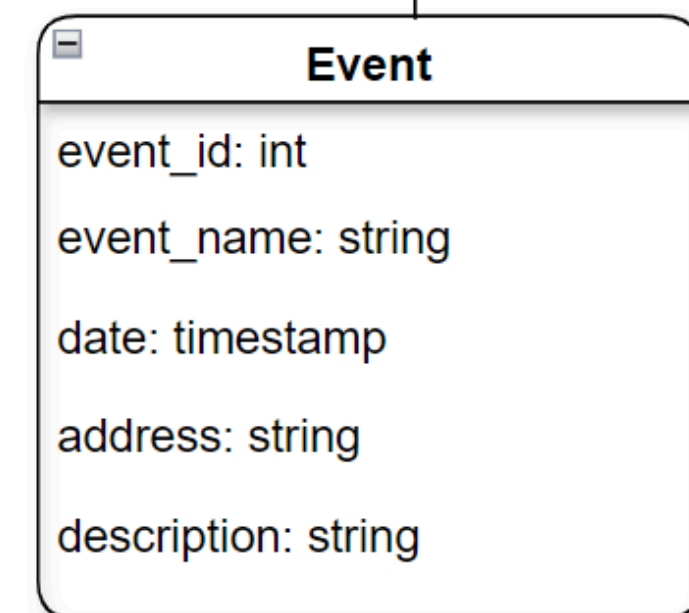
## QUERY #5

Retrieve the available amount of tickets for the chosen ticket type and specific event selected by the user.



1..\*

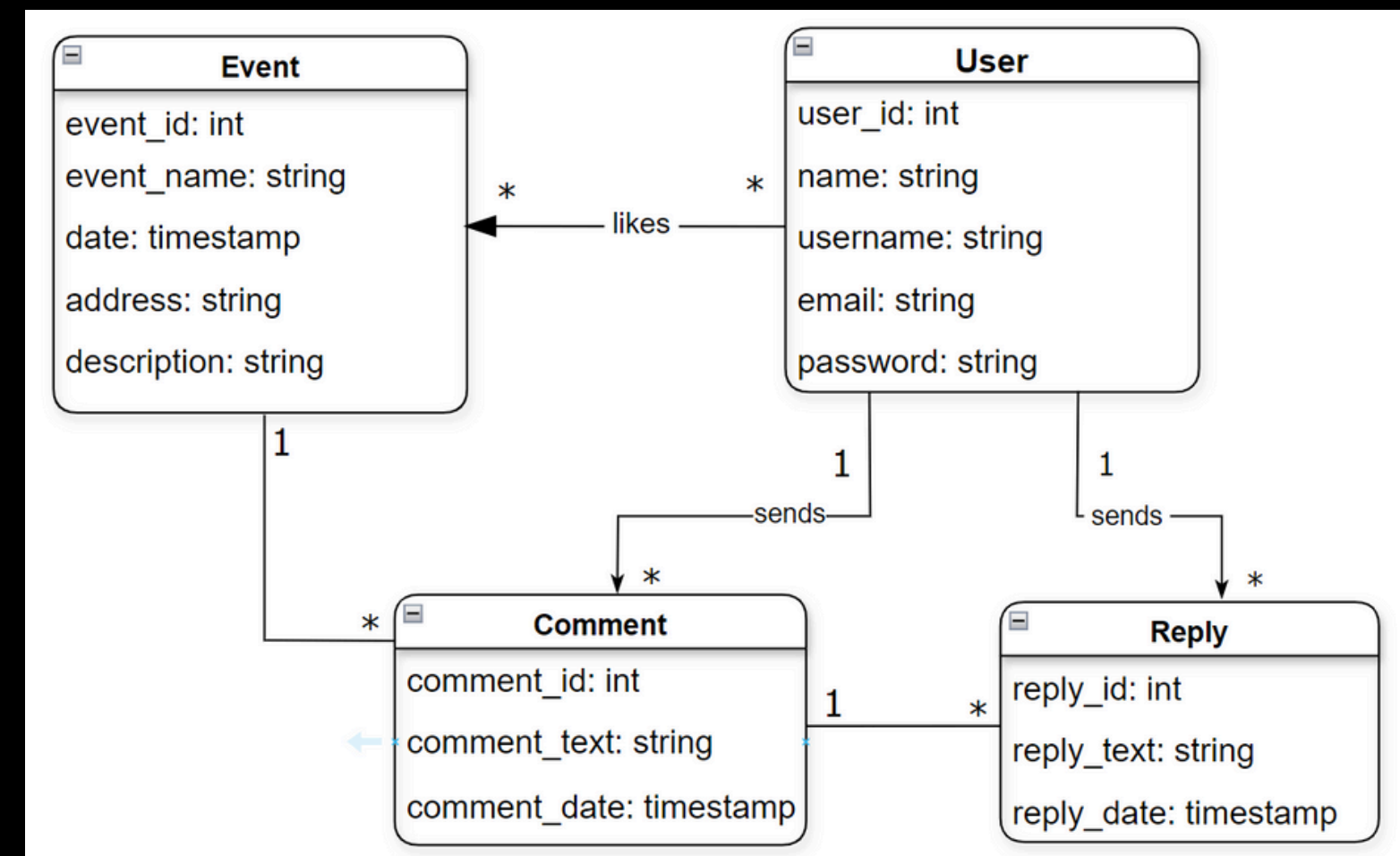
1





# QUERY #6

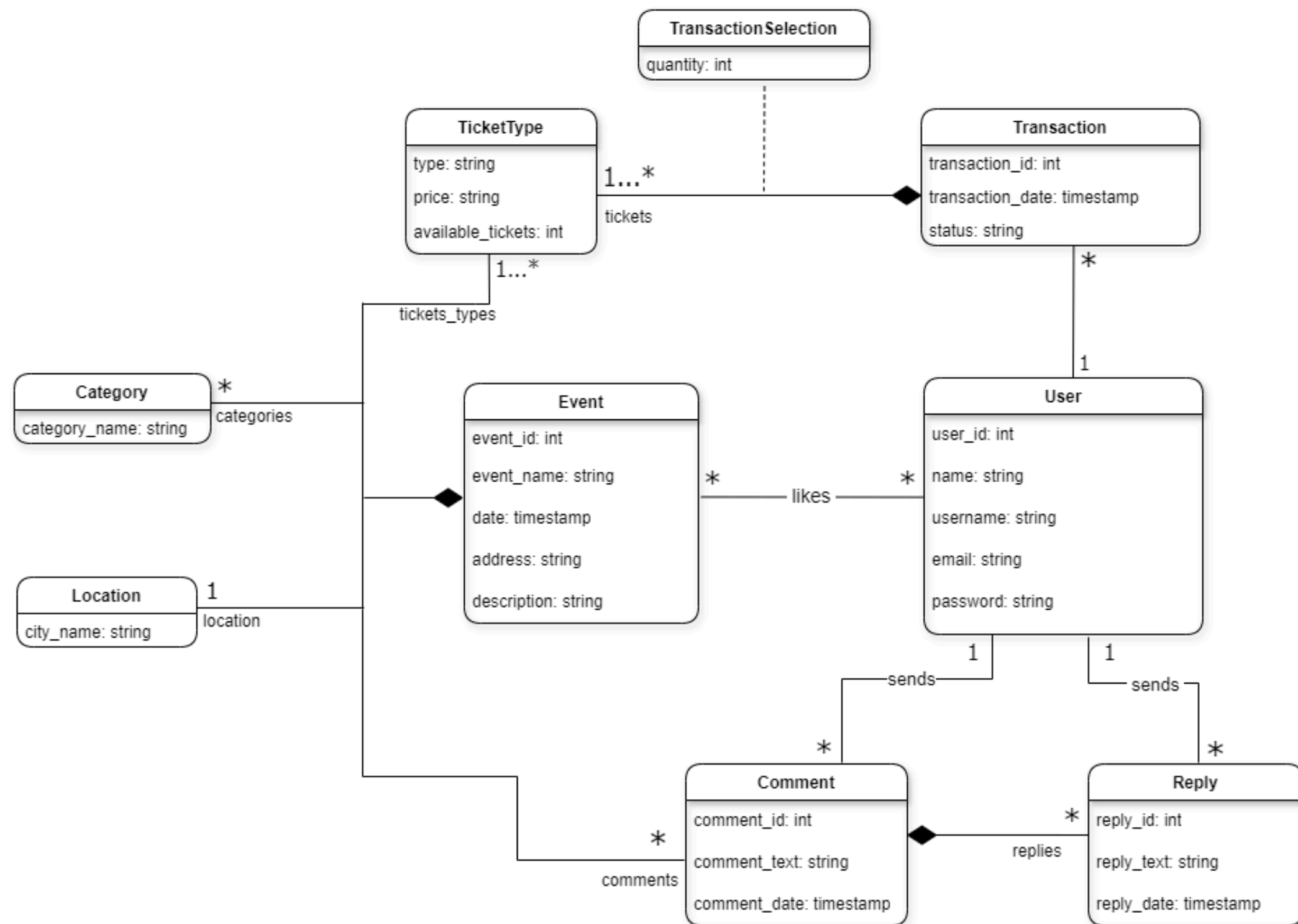
Retrieve comments and replies made by the user in events.





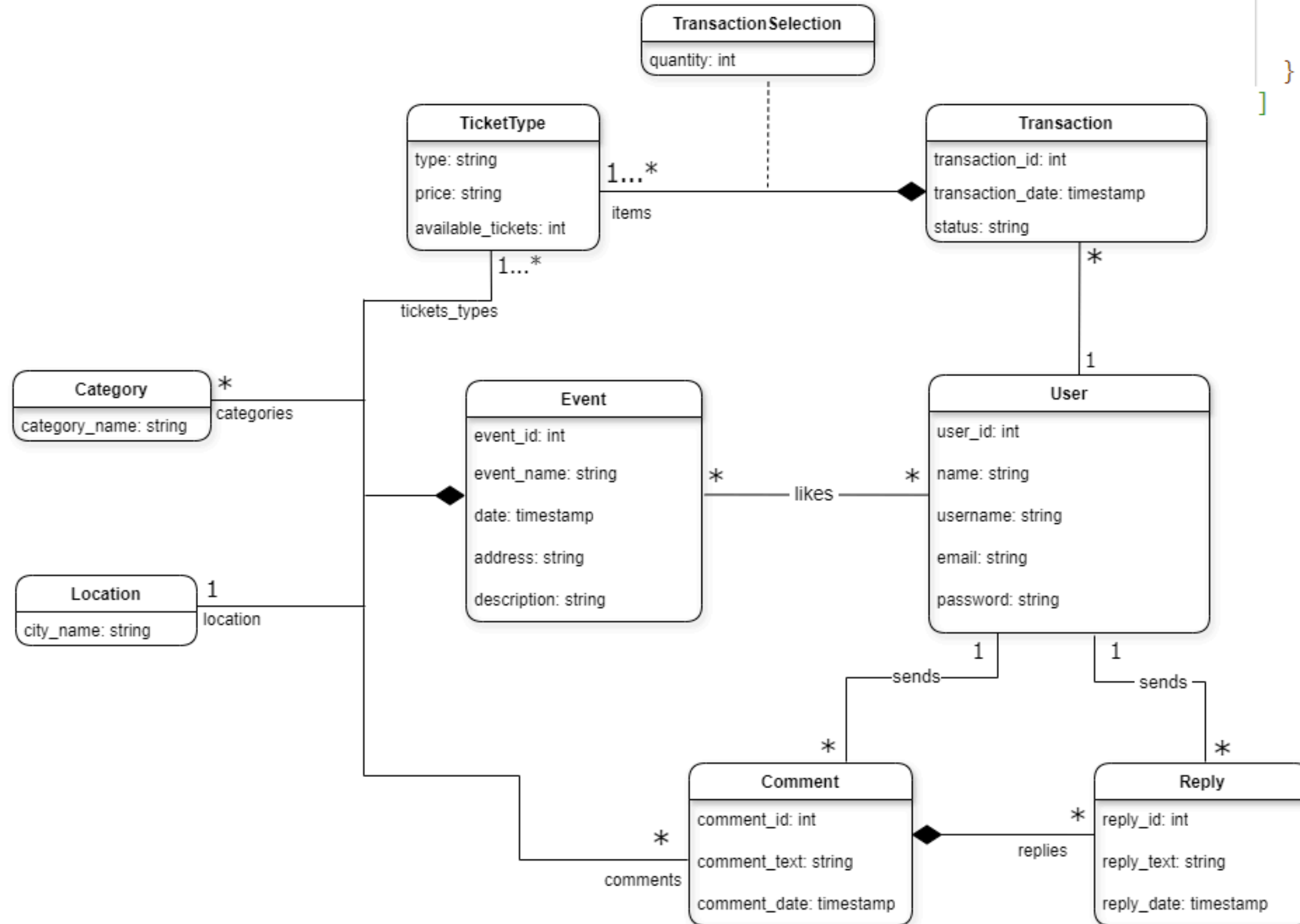
# AGGREGATES

# EVENTS



```
"events": [
{
  "event_id": 123,
  "event_name": "Music Festival",
  "date": "2024-03-20",
  "address": "123 Main Street",
  "description": "Join us for a weekend of music and fun!",
  "categories": ["Music", "Festival"],
  "location": "London",
  "ticket_types": [
    {
      "type_name": "VIP",
      "price": 100,
      "available_tickets": 500
    },
    {
      "type_name": "General Admission",
      "price": 50,
      "available_tickets": 1000
    }
  ],
  "comments": [
    {
      "comment_id": 1,
      "user_id": 101,
      "user_name": "JohnDoe123",
      "text": "This festival was amazing!",
      "date": "2024-03-21",
      "replies": []
    }
  ]
}
]
```

# TRANSACTIONS



```
"users": [  
  {  
    "user_id": 101,  
    "name": "John Doe",  
    "username": "john_d",  
    "email": "john.doe@example.com",  
    "password": "hashed_password",  
    "liked_events": [1, 14, 22, 50]  
  }  
]
```

```
"transactions": [  
  {  
    "id": 1,  
    "user_id": 101,  
    "date": "2024-04-08",  
    "status": "Shopping Cart",  
    "items": [  
      {  
        "ticket_type": "Student",  
        "price": 30,  
        "quantity_selected": 1,  
        "event_id": 125,  
        "event_name": "Art Exhibition",  
        "event_date": "2024-04-12"  
      }  
    ]  
  },  
  {  
    "id": 2,  
    "user_id": 101,  
    "date": "2024-04-07",  
    "status": "Purchased",  
    "items": [  
      {  
        "ticket_type": "VIP",  
        "price": 100,  
        "quantity_selected": 2,  
        "event_id": 123,  
        "event_name": "Music Festival",  
        "event_date": "2024-03-20"  
      },  
      {  
        "ticket_type": "General Admission",  
        "price": 50,  
        "quantity_selected": 3,  
        "event_id": 124,  
        "event_name": "Food Fair",  
        "event_date": "2024-05-14"  
      }  
    ]  
  }  
]
```



# THANK YOU

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