1. **Use Case:** Register for an account in Northeastern Events Portal (NEP)

Relational algebra is not possible for this use case as there is no register operation.

1. **Use Case:** Register for an event

Relational algebra is not possible for this use case as there is no register operation.

1. **Use Case:** View an event already registered through Twitter by a user

Πname,twitter\_handle(σticket\_id is not null and twitter\_handle = “@Nikhil” (event ticket))

1. **Use Case:** View the events happening on a particular date.

σ{event\_date = “2022/10/21”} (Events)

1. **Use Case:** View the events that are free to attend

σ (event\_type.event\_type = “free”)(Events⋈Event\_TypeEvent.event\_type\_id=Event\_type.event\_type\_id )

1. **Use Case:** View the events that are happening during a particular time slot

σ{event\_time = 16:00:00 ∩ event\_duration = 2} (Events)

1. **Use Case:** View the events that are happening in a location

σ (Location.street = “huntington ave”)(Events⋈LocationEvent.location\_id=Location.location\_id )

1. **Use Case:** View the events that have free perks

σ{event\_perks = “free tshirts”}(Events)

1. **Use Case:** View the events that have a particular theme

σ{event\_theme = “fall themed”} (Events)

1. **Use Case:** View the events that are being organized by a club

σ (Club.club\_name = “husky competitive programming club”)(Events⋈ClubsEvent.club\_id=Club.club\_id )

1. **Use Case:** View the payments made by the user

σ (User.twitter\_handle = “@Nikhil”)(User⋈PaymentsUser.twitter\_handle=Payments.twitter\_handle )

1. **Use Case:** View the events that are below a particular price ($20)

Π {Events.event\_title, Event\_Ticket.Ticket\_Cost}σ( Event\_ticket.ticket\_cost < 20)(Events⋈Event\_TicketsEvent.Event\_id=Event\_ticket.Event\_id)

1. **Use Case:** View the event status

Π{Events.event\_title, Event\_Status.Event\_status}σ( Event\_status.Event\_Status = “Regsitration Open”)(Events⋈Event\_StatusEvent.status\_id=Event\_Status.status\_id)

1. **Use Case:** View the details of the organizer

σ{club\_name = “AI Skunkworks”} (Clubs)

1. **Use Case:** View the location of a club

σ (Club.Club\_name = “Badminton Graduate Club”)(Clubs⋈LocationClub.club\_location\_id=Location.Location\_id)