declare_health (those who have not declared)

ID	Dates never declare	Status
1	25/10, 28/10, 29/10	
127	27/10, 28/10, 29/10, 30/10	
128	28/10, 29/10, 30/10	
129	29/10, 30/10	
130	30/10	
108	25/10, 26/10, 28/10	Resigned on 28/10
109	27/10, 28/10	Resigned on 28/10
110	28/10	Resigned on 28/10

START FROM 30/10/2021

- So, change laptop date to 30/10/2021

Add Department

Add department: duplicate

```
proj1=# call add_department(1, 'Test Office');
ERROR:  duplicate key value violates unique constraint "departments_pkey"
DETAIL:  Key (did)=(1) already exists.
CONTEXT:  SQL function "add_department" statement 1
proj1=#
```

Add department: No issues

```
proj1=# select * from departments;
 did |        dname
-----+----------------------
   1 | HR
   2 | Finance
   3 | Accounts
   4 | Records
   5 | Public relations
   6 | Sales
   7 | Marketing
   8 | Production
   9 | Research
  10 | IT
  11 | Mechanical
  12 | Eletrical
  13 | Embedded Systems
  14 | AI
  15 | ML
  16 | Computer Vision
  17 | Graphics
  18 | Cyber Security
  19 | Backend Engineering
  20 | Frontend Engineering
  21 | 2102
(21 rows)


proj1=# call add_department(22, 'Test Office');
CALL
```

```
proj1=# call add_department(22, 'Test Office');
CALL
proj1=# select * from departments;
 did |        dname
-----+----------------------
   1 | HR
   2 | Finance
   3 | Accounts
   4 | Records
   5 | Public relations
   6 | Sales
   7 | Marketing
   8 | Production
   9 | Research
  10 | IT
  11 | Mechanical
  12 | Eletrical
  13 | Embedded Systems
  14 | AI
  15 | ML
  16 | Computer Vision
  17 | Graphics
  18 | Cyber Security
  19 | Backend Engineering
  20 | Frontend Engineering
  21 | 2102
  22 | Test Office
(22 rows)
```

Remove Department

Remove department: No issues

```
proj1=# call remove_department(22);
CALL
proj1=# select * from departments;
 did |        dname
-----+----------------------
   1 | HR
   2 | Finance
   3 | Accounts
   4 | Records
   5 | Public relations
   6 | Sales
   7 | Marketing
   8 | Production
   9 | Research
  10 | IT
  11 | Mechanical
  12 | Eletrical
  13 | Embedded Systems
  14 | AI
  15 | ML
  16 | Computer Vision
  17 | Graphics
  18 | Cyber Security
  19 | Backend Engineering
  20 | Frontend Engineering
  21 | 2102
(21 rows)
```

Add room

Add room: Duplicate

```
proj1=# select * from meetingrooms;
 room_num | floor_num |           rname           | did
----------+-----------+---------------------------+----
        1 |         1 | HR Room                   |  1
        2 |         1 | Finance Room              |  2
        3 |         1 | Accounts Room             |  3
        4 |         1 | Records Room              |  4
        5 |         1 | Public relations Room     |  5
        6 |         1 | Sales Room                |  6
        7 |         1 | Marketing Room            |  7
        8 |         1 | Production Room           |  8
        9 |         1 | Research Room             |  9
       10 |         1 | IT Room                   | 10
        1 |         2 | Mechanical Room           | 11
        2 |         2 | Eletrical Room            | 12
        3 |         2 | Embedded Systems Room     | 13
        4 |         2 | AI Room                   | 14
        5 |         2 | ML Room                   | 15
        6 |         2 | Computer Vision Room      | 16
        7 |         2 | Graphics Room             | 17
        8 |         2 | Cyber Security Room       | 18
        9 |         2 | Backend Engineering Room  | 19
       10 |         2 | Frontend Engineering Room | 20
(20 rows)
```

```
proj1=# select * from updates;
   udate     | room_num | floor_num | mid | new_cap
-------------+----------+-----------+-----+---------
 2021-09-10 |        1 |         1 |     |       6
 2021-09-10 |        2 |         1 |     |       6
 2021-09-10 |        3 |         1 |     |       9
 2021-09-10 |        4 |         1 |     |       6
 2021-09-10 |        5 |         1 |     |       5
 2021-09-10 |        6 |         1 |     |       5
 2021-09-10 |        7 |         1 |     |       9
 2021-09-10 |        8 |         1 |     |       5
 2021-09-10 |        9 |         1 |     |       9
 2021-09-10 |       10 |         1 |     |       4
 2021-09-10 |        1 |         2 |     |       2
 2021-09-10 |        2 |         2 |     |       7
 2021-09-10 |        3 |         2 |     |       8
 2021-09-10 |        4 |         2 |     |       6
 2021-09-10 |        5 |         2 |     |       7
 2021-09-10 |        6 |         2 |     |       4
 2021-09-10 |        7 |         2 |     |       2
 2021-09-10 |        8 |         2 |     |       4
 2021-09-10 |        9 |         2 |     |       3
 2021-09-10 |       10 |         2 |     |       5
(20 rows)
```

Add room: Duplicate

```
proj1=# call add_room(10, 2, 'Test Room', 20, 5, '2021-10-30');
ERROR:  duplicate key value violates unique constraint "meetingrooms_pkey"
DETAIL:  Key (room_num, floor_num)=(10, 2) already exists.
CONTEXT:  SQL function "add_room" statement 1
proj1=#
```

Add room: No issues

Command Prompt - psql -U postgres

```
proj1=# call add_room(11, 2, 'Test Room', 20, 5, '2021-10-30');
CALL
proj1=# select * from meetingrooms;
 room_num | floor_num |           rname           | did
----------+-----------+---------------------------+-----
        1 |         1 | HR Room                   |   1
        2 |         1 | Finance Room              |   2
        3 |         1 | Accounts Room             |   3
        4 |         1 | Records Room              |   4
        5 |         1 | Public relations Room     |   5
        6 |         1 | Sales Room                |   6
        7 |         1 | Marketing Room            |   7
        8 |         1 | Production Room           |   8
        9 |         1 | Research Room             |   9
       10 |         1 | IT Room                   |  10
        1 |         2 | Mechanical Room           |  11
        2 |         2 | Eletrical Room            |  12
        3 |         2 | Embedded Systems Room     |  13
        4 |         2 | AI Room                   |  14
        5 |         2 | ML Room                   |  15
        6 |         2 | Computer Vision Room      |  16
        7 |         2 | Graphics Room             |  17
        8 |         2 | Cyber Security Room       |  18
        9 |         2 | Backend Engineering Room  |  19
       10 |         2 | Frontend Engineering Room |  20
       11 |         2 | Test Room                 |  20
(21 rows)
```

```
proj1=# select * from updates;
   udate    | room_num | floor_num | mid | new_cap
------------+----------+-----------+-----+---------
 2021-09-10 |        1 |         1 |     |       6
 2021-09-10 |        2 |         1 |     |       6
 2021-09-10 |        3 |         1 |     |       9
 2021-09-10 |        4 |         1 |     |       6
 2021-09-10 |        5 |         1 |     |       5
 2021-09-10 |        6 |         1 |     |       5
 2021-09-10 |        7 |         1 |     |       9
 2021-09-10 |        8 |         1 |     |       5
 2021-09-10 |        9 |         1 |     |       9
 2021-09-10 |       10 |         1 |     |       4
 2021-09-10 |        1 |         2 |     |       2
 2021-09-10 |        2 |         2 |     |       7
 2021-09-10 |        3 |         2 |     |       8
 2021-09-10 |        4 |         2 |     |       6
 2021-09-10 |        5 |         2 |     |       7
 2021-09-10 |        6 |         2 |     |       4
 2021-09-10 |        7 |         2 |     |       2
 2021-09-10 |        8 |         2 |     |       4
 2021-09-10 |        9 |         2 |     |       3
 2021-09-10 |       10 |         2 |     |       5
 2021-10-30 |       11 |         2 |     |       5
(21 rows)
```

Change capacity

Change capacity

- Check whether manager same dept as room
- Remove future meetings that exceed new cap, whether approved or not
- Manager has not resigned
- Only one entry per room per day. For other entries, simply update instead of insert

Room picked:

- Floor_num : 1
- Room_num: 1
- Capacity: 6
- Date: today, 30/10/2021

- AIM: first change to 3, increase to 4 then decrease to 2

Change Capacity to 3: Not manager

```
proj1=# call change_capacity(1, 1, 3, '2021-10-30', 1);
ERROR:  insert or update on table "updates" violates foreign key constraint "updates_mid_fkey"
DETAIL:  Key (mid)=(1) is not present in table "manager".
CONTEXT:  SQL statement "INSERT INTO Updates VALUES (update_date, room_no, floor_no, manager_id, new_room_cap)"
PL/pgSQL function change_capacity(integer,integer,integer,date,integer) line 7 at SQL statement
proj1=#
```

Change Capacity: resigned

```
proj1=# select * from employees where resigned_date IS NOT NULL;
 eid |      ename      |                 email                 | home_contact | mobile_contact | office_contact | resigned_date | did
-----+-----------------+---------------------------------------+--------------+----------------+----------------+---------------+-----
 109 | Lucy Wallace    | LucyWallace_0109@company2102.com      |     60213920 |       86055489 |       69703414 | 2021-10-28    |
 110 | Joseph Mcdonald | JosephMcdonald_0110@company2102.com   |     63777561 |       88334214 |       66782238 | 2021-10-28    |
 108 | Earl Howell     | EarlHowell_0108@company2102.com       |     62430781 |       87312571 |       65098708 | 2021-10-28    |
(3 rows)


proj1=#
```

```
proj1=# call change_capacity(1, 1, 3, '2021-10-30', 110);
ERROR:  Resigned employees cannot change capacity of a room!
CONTEXT:  PL/pgSQL function checkupdatecappreconstraint() line 5 at RAISE
SQL statement "INSERT INTO Updates VALUES (update_date, room_no, floor_no, manager_id, new_room_cap)"
PL/pgSQL function change_capacity(integer,integer,integer,date,integer) line 7 at SQL statement
proj1=#
```

Change Capacity: not same department as room

```
proj1=# select * from meetingrooms where room_num = 1 and floor_num = 1;
 room_num | floor_num |  rname  | did
----------+-----------+---------+-----
        1 |         1 | HR Room |   1
(1 row)


proj1=#
```

```
proj1=# select * from employees where eid = 20;
 eid |    ename     |              email              | home_contact | mobile_contact | office_contact | resigned_date | did
-----+--------------+---------------------------------+--------------+----------------+----------------+---------------+-----
  20 | Tyrone Watts | TyroneWatts_020@company2102.com |     61460610 |       85344086 |       65775247 |               |   2
(1 row)


proj1=#
```

```
proj1=# call change_capacity(1, 1, 3, '2021-10-30', 20);
ERROR:  Only manager belonging to same department as a room can change its capacity!
CONTEXT:  PL/pgSQL function checkupdatecappreconstraint() line 12 at RAISE
SQL statement "INSERT INTO Updates VALUES (update_date, room_no, floor_no, manager_id, new_room_cap)"
PL/pgSQL function change_capacity(integer,integer,integer,date,integer) line 7 at SQL statement
proj1=#
```

Change capacity: original sessions

Command Prompt - psql -U postgres

```
proj1=# select * from booksessions where room_num = 1 and floor_num = 1;
 stime |   sdate    | room_num | floor_num | bid | mid
-------+------------+----------+-----------+-----+-----
    14 | 2021-11-03 |        1 |         1 |   9 |
    15 | 2021-10-26 |        1 |         1 |  29 |
    15 | 2021-10-29 |        1 |         1 |  29 |  10
    15 | 2021-10-30 |        1 |         1 |  29 |
    15 | 2021-10-31 |        1 |         1 |  39 |
    15 | 2021-11-03 |        1 |         1 |   9 |
    16 | 2021-10-26 |        1 |         1 |  19 |  10
    16 | 2021-10-29 |        1 |         1 |  19 |
    16 | 2021-10-30 |        1 |         1 |   9 |  10
    16 | 2021-10-31 |        1 |         1 |  29 |  10
    16 | 2021-11-05 |        1 |         1 |  49 |
    16 | 2021-11-06 |        1 |         1 |  49 |  10
    17 | 2021-11-05 |        1 |         1 |  29 |  10
    17 | 2021-11-06 |        1 |         1 |  29 |
(14 rows)
```

Change capacity: original sessions with attendees no

```
proj1=# select b.stime, b.sdate, b.room_num, b.floor_num, b.bid, b.mid,
proj1-# (MeetingPax(1, 1, b.sdate, b.stime)) as pplNo from booksessions b where b.room_num = 1 and b.floor_num = 1;
 stime |   sdate    | room_num | floor_num | bid | mid | pplno
-------+------------+----------+-----------+-----+-----+-------
    14 | 2021-11-03 |        1 |         1 |   9 |     |     1
    15 | 2021-10-26 |        1 |         1 |  29 |     |     4
    15 | 2021-10-29 |        1 |         1 |  29 |  10 |     5
    15 | 2021-10-30 |        1 |         1 |  29 |     |     4
    15 | 2021-10-31 |        1 |         1 |  39 |     |     5
    15 | 2021-11-03 |        1 |         1 |   9 |     |     1
    16 | 2021-10-26 |        1 |         1 |  19 |  10 |     4
    16 | 2021-10-29 |        1 |         1 |  19 |     |     5
    16 | 2021-10-30 |        1 |         1 |   9 |  10 |     4
    16 | 2021-10-31 |        1 |         1 |  29 |  10 |     3
    16 | 2021-11-05 |        1 |         1 |  49 |     |     2
    16 | 2021-11-06 |        1 |         1 |  49 |  10 |     2
    17 | 2021-11-05 |        1 |         1 |  29 |  10 |     4
    17 | 2021-11-06 |        1 |         1 |  29 |     |     4
(14 rows)
```

Change capacity: no entry for the date

Command Prompt - psql -U postgres

```
proj1=# select * from updates where room_num = 1 and floor_num = 1;
   udate    | room_num | floor_num | mid | new_cap
------------+----------+-----------+-----+---------
 2021-09-10 |        1 |         1 |     |       6
(1 row)
```

```
proj1=# call change_capacity(1, 1, 3, '2021-10-30', 10);
CALL
proj1=# select * from updates where room_num = 1 and floor_num = 1;
   udate    | room_num | floor_num | mid | new_cap
------------+----------+-----------+-----+---------
 2021-09-10 |        1 |         1 |     |       6
 2021-10-30 |        1 |         1 |  10 |       3
(2 rows)
```

Change capacity: delete future meetings

```
proj1=# select b.stime, b.sdate, b.room_num, b.floor_num, b.bid, b.mid, (Meetin
um = 1;
 stime |   sdate    | room_num | floor_num | bid | mid | pplno
-------+------------+----------+-----------+-----+-----+-------
    14 | 2021-11-03 |        1 |         1 |   9 |     |     1
    15 | 2021-10-26 |        1 |         1 |  29 |     |     4
    15 | 2021-10-29 |        1 |         1 |  29 |  10 |     5
    15 | 2021-10-30 |        1 |         1 |  29 |     |     4
    15 | 2021-11-03 |        1 |         1 |   9 |     |     1
    16 | 2021-10-26 |        1 |         1 |  19 |  10 |     4
    16 | 2021-10-29 |        1 |         1 |  19 |     |     5
    16 | 2021-10-30 |        1 |         1 |   9 |  10 |     4
    16 | 2021-10-31 |        1 |         1 |  29 |  10 |     3
    16 | 2021-11-05 |        1 |         1 |  49 |     |     2
    16 | 2021-11-06 |        1 |         1 |  49 |  10 |     2
(11 rows)
```

Change capacity: existing entry for the date

```
proj1=# call change_capacity(1, 1, 3, '2021-10-30', 10);
CALL
proj1=# select * from updates where room_num = 1 and floor_num = 1;
   udate    | room_num | floor_num | mid | new_cap
------------+----------+-----------+-----+---------
 2021-09-10 |        1 |         1 |     |       6
 2021-10-30 |        1 |         1 |  10 |       3
(2 rows)
```

```
proj1=# call change_capacity(1, 1, 4, '2021-10-30', 10);
CALL
proj1=# select * from updates where room_num = 1 and floor_num = 1;
   udate    | room_num | floor_num | mid | new_cap
------------+----------+-----------+-----+---------
 2021-09-10 |        1 |         1 |     |       6
 2021-10-30 |        1 |         1 |  10 |       4
(2 rows)
```

Change capacity: delete future meetings

```
proj1=# select b.stime, b.sdate, b.room_num, b.floor_num, b.bid, b.mid, (MeetingPax(1,
um = 1;
 stime |   sdate    | room_num | floor_num | bid | mid | pplno
-------+------------+----------+-----------+-----+-----+-------
    14 | 2021-11-03 |        1 |         1 |   9 |     |     1
    15 | 2021-10-26 |        1 |         1 |  29 |     |     4
    15 | 2021-10-29 |        1 |         1 |  29 |  10 |     5
    15 | 2021-10-30 |        1 |         1 |  29 |     |     4
    15 | 2021-11-03 |        1 |         1 |   9 |     |     1
    16 | 2021-10-26 |        1 |         1 |  19 |  10 |     4
    16 | 2021-10-29 |        1 |         1 |  19 |     |     5
    16 | 2021-10-30 |        1 |         1 |   9 |  10 |     4
    16 | 2021-10-31 |        1 |         1 |  29 |  10 |     3
    16 | 2021-11-05 |        1 |         1 |  49 |     |     2
    16 | 2021-11-06 |        1 |         1 |  49 |  10 |     2
(11 rows)
```

NO CHANGE

Change capacity: existing entry for the date

```
proj1=# call change_capacity(1, 1, 4, '2021-10-30', 10);
CALL
proj1=# select * from updates where room_num = 1 and floor_num = 1;
   udate    | room_num | floor_num | mid | new_cap
------------+----------+-----------+-----+---------
 2021-09-10 |        1 |         1 |     |       6
 2021-10-30 |        1 |         1 |  10 |       4
(2 rows)
```

Command Prompt - psql -U postgres

```
proj1=# call change_capacity(1, 1, 2, '2021-10-30', 10);
CALL
proj1=# select * from updates where room_num = 1 and floor_num = 1;
   udate    | room_num | floor_num | mid | new_cap
------------+----------+-----------+-----+---------
 2021-09-10 |        1 |         1 |     |       6
 2021-10-30 |        1 |         1 |  10 |       2
(2 rows)
```

Change capacity: delete future meetings

```
proj1=# select b.stime, b.sdate, b.room_num, b.floor_num, b.bid, b.mid, (MeetingPax(1,
um = 1;
 stime |   sdate    | room_num | floor_num | bid | mid | pplno
-------+------------+----------+-----------+-----+-----+-------
    14 | 2021-11-03 |        1 |         1 |   9 |     |     1
    15 | 2021-10-26 |        1 |         1 |  29 |     |     4
    15 | 2021-10-29 |        1 |         1 |  29 |  10 |     5
    15 | 2021-10-30 |        1 |         1 |  29 |     |     4
    15 | 2021-11-03 |        1 |         1 |   9 |     |     1
    16 | 2021-10-26 |        1 |         1 |  19 |  10 |     4
    16 | 2021-10-29 |        1 |         1 |  19 |     |     5
    16 | 2021-10-30 |        1 |         1 |   9 |  10 |     4
    16 | 2021-11-05 |        1 |         1 |  49 |     |     2
    16 | 2021-11-06 |        1 |         1 |  49 |  10 |     2
(10 rows)
```

Change capacity: invalid cap

```
proj1=# call change_capacity(1, 1, 0, '2021-10-30', 10);
ERROR:  new row for relation "updates" violates check constra
DETAIL:  Failing row contains (2021-10-30, 1, 1, 10, 0).
CONTEXT:  SQL statement "UPDATE Updates SET mid = manager_id,
PL/pgSQL function change_capacity(integer,integer,integer,dat
proj1=# call change_capacity(1, 1, -1, '2021-10-30', 10);
ERROR:  new row for relation "updates" violates check constra
DETAIL:  Failing row contains (2021-10-30, 1, 1, 10, -1).
CONTEXT:  SQL statement "UPDATE Updates SET mid = manager_id,
PL/pgSQL function change_capacity(integer,integer,integer,dat
proj1=#
```

add_employee

Add_employee

- generate unique id & email
- add them to respective subgroups
- Check for overlaps
- Check for NULL department

Add_employee [No issues]

```
proj1=# call add_employee('riyas', 61234567, 81234567, 61117777, 'Junior', 20);
CALL
proj1=# select * from employees where eid = 202;
 eid | ename | email | home_contact | mobile_contact | office_contact | resigned_date | did
-----+-------+-------+--------------+----------------+----------------+---------------+-----
(0 rows)


proj1=# select * from employees where eid = 201;
 eid | ename |          email           | home_contact | mobile_contact | office_contact | resigned_date | did
-----+-------+--------------------------+--------------+----------------+----------------+---------------+-----
 201 | riyas | riyas_0201@company2102.com |     61234567 |       81234567 |       61117777 |               |  20
(1 row)
```

Add_employee [valid email]

```
proj1=# call add_employee('ri123ya!@#$%^s []\`<>?', 61234567, 81234567, 61117777, 'Senior', 20);
CALL
proj1=# select * from employees where eid = 202;
 eid |         ename          |           email            | home_contact | mobile_contact | office_contact | resigned_date | did
-----+------------------------+----------------------------+--------------+----------------+----------------+---------------+-----
 202 | ri123ya!@#$%^s []\`<>? | riyas_0202@company2102.com |     61234567 |       81234567 |       61117777 |               |  20
(1 row)
```

- Email: extract out just the alphabetical name and ID

Add_employee [email] – manual insert

```
proj1=# insert into employees(ename, did) VALUES ('riyas03', 20);
INSERT 0 1
proj1=# select * from employees where eid = 203;
 eid |  ename  |           email            | home_contact | mobile_contact | office_contact | resigned_date | did
-----+---------+----------------------------+--------------+----------------+----------------+---------------+-----
 203 | riyas03 | riyas_0203@company2102.com |              |                |                |               |  20
(1 row)
```

Add_employee [no null department]

```
proj1=# insert into employees(ename, did) VALUES ('riyas03', NULL);
ERROR:  Department cannot be NULL
CONTEXT:  PL/pgSQL function checkdeptisnotnull() line 4 at RAISE
proj1=#
```

Add to junior [no overlap & duplicate]

```
proj1=# insert into junior VALUES (1);
ERROR:  duplicate key value violates unique constraint "junior_pkey"
DETAIL:  Key (jid)=(1) already exists.
proj1=# insert into senior VALUES (1);
ERROR:  Senior ID is present at Junior table!
CONTEXT:  PL/pgSQL function checknonoverlapsenior() line 4 at RAISE
proj1=# insert into manager VALUES (1);
ERROR:  Manager ID is present at Junior table!
CONTEXT:  PL/pgSQL function checknonoverlapmanager() line 4 at RAISE
proj1=# insert into booker VALUES (1);
ERROR:  ID is present at Junior table & is a Junior employee!
CONTEXT:  PL/pgSQL function checkisseniormanager() line 4 at RAISE
proj1=#
```

Add to senior [no overlap & duplicate]

```
proj1=# insert into junior VALUES (9);
ERROR:  Junior ID is present at Senior table!
CONTEXT:  PL/pgSQL function checknonoverlapjunior() line 4 at RAISE
proj1=# insert into senior VALUES (9);
ERROR:  duplicate key value violates unique constraint "senior_pkey"
DETAIL:  Key (snid)=(9) already exists.
proj1=# insert into manager VALUES (9);
ERROR:  Manager ID is present at Senior table!
CONTEXT:  PL/pgSQL function checknonoverlapmanager() line 7 at RAISE
proj1=# insert into booker VALUES (9);
ERROR:  duplicate key value violates unique constraint "booker_pkey"
DETAIL:  Key (bid)=(9) already exists.
proj1=#
```

Add to senior [no overlap & duplicate]

```
proj1=#  insert into junior VALUES (10);
ERROR:  Junior ID is present at Manager table!
CONTEXT:  PL/pgSQL function checknonoverlapjunior() line 7 at RAISE
proj1=#  insert into senior VALUES (10);
ERROR:  Senior ID is present at Manager table!
CONTEXT:  PL/pgSQL function checknonoverlapsenior() line 7 at RAISE
proj1=#  insert into manager VALUES (10);
ERROR:  duplicate key value violates unique constraint "manager_pkey"
DETAIL:  Key (mid)=(10) already exists.
proj1=#  insert into booker VALUES (10);
ERROR:  duplicate key value violates unique constraint "booker_pkey"
DETAIL:  Key (bid)=(10) already exists.
proj1=#
```

Add_employee: no junior insert to booker

```
proj1=# insert into booker values (201);
ERROR:  ID is present at Junior table & is a Junior employee!
CONTEXT:  PL/pgSQL function checkisseniormanager() line 4 at RAISE
proj1=#
```

Remove_employee

Remove_employee

- remove employee from future meetings (regardless pending or approved).
- Remove the meetings booked by the employee but keep those approved by employee
- Set department to NULL so that later can delete department

Remove_employee

- Employee: 30
- Resigned date: today.

Remove_employee (booked by 30)

```
proj1=# select * from booksessions where bid = 30;
 stime |   sdate    | room_num | floor_num | bid | mid
-------+------------+----------+-----------+-----+-----
    15 | 2021-10-26 |        2 |         1 |  30 |
    16 | 2021-10-29 |        3 |         1 |  30 |  30
    16 | 2021-10-30 |        3 |         1 |  30 |  30
    15 | 2021-10-31 |        2 |         1 |  30 |
    16 | 2021-11-06 |        3 |         1 |  30 |  30
(5 rows)


proj1=#
```

Remove_employee (joined by 30)

```
proj1=# select * from joins where eid = 30;
 eid | stime |   sdate    | room_num | floor_num
-----+-------+------------+----------+-----------
  30 |    15 | 2021-10-26 |        2 |         1
  30 |    16 | 2021-10-26 |        2 |         1
  30 |    15 | 2021-10-29 |        2 |         1
  30 |    16 | 2021-10-29 |        3 |         1
  30 |    15 | 2021-10-30 |        2 |         1
  30 |    16 | 2021-10-30 |        3 |         1
  30 |    15 | 2021-10-31 |        2 |         1
  30 |    16 | 2021-10-31 |        2 |         1
  30 |    16 | 2021-11-06 |        3 |         1
  30 |    17 | 2021-11-06 |        2 |         1
(10 rows)
```

Remove_employee (approved but NOT JOINED by 30)

```
proj1=# select * from booksessions where mid = 30;
 stime |   sdate    | room_num | floor_num | bid | mid
-------+------------+----------+-----------+-----+-----
    16 | 2021-10-29 |        3 |         1 |  30 |  30
    16 | 2021-10-30 |        3 |         1 |  30 |  30
    17 | 2021-10-31 |        3 |         1 |  10 |  30
    17 | 2021-11-05 |        3 |         1 |  10 |  30
    16 | 2021-11-06 |        3 |         1 |  30 |  30
(5 rows)


proj1=# select  b.room_num, b.floor_num, b.sdate, b.stime from booksessions b wher
 b.floor_num = j.floor_num and b.sdate = j.sdate and b.stime = j.stime);
 room_num | floor_num |   sdate    | stime
----------+-----------+------------+-------
        3 |         1 | 2021-10-31 |    17
        3 |         1 | 2021-11-05 |    17
(2 rows)


proj1=#
```

Remove_employee (main procedure)

```
proj1=# select * from employees where eid = 30;
 eid |     ename     |              email               | home_contact | mobile_contact | office_contact | resigned_date | did
-----+---------------+----------------------------------+--------------+----------------+----------------+---------------+-----
  30 | Bernice Tyler | BerniceTyler_030@company2102.com |     60200682 |       85072911 |       69292728 |               |   3
(1 row)


proj1=# call remove_employee(30, '2021-10-30');
NOTICE:  Employee 30 has resigned on date 2021-10-30
CALL
proj1=# select * from employees where eid = 30;
 eid |     ename     |              email               | home_contact | mobile_contact | office_contact | resigned_date | did
-----+---------------+----------------------------------+--------------+----------------+----------------+---------------+-----
  30 | Bernice Tyler | BerniceTyler_030@company2102.com |     60200682 |       85072911 |       69292728 | 2021-10-30    |
(1 row)


proj1=#
```

Remove_employee (booked by 30)

```
proj1=# select * from booksessions where bid = 30;
 stime |   sdate    | room_num | floor_num | bid | mid
-------+------------+----------+-----------+-----+-----
    15 | 2021-10-26 |        2 |         1 |  30 |
    16 | 2021-10-29 |        3 |         1 |  30 |  30
    16 | 2021-10-30 |        3 |         1 |  30 |  30
(3 rows)
```

ONLY OLD BOOKED MEETINGS EXIST

Remove_employee (joined by 30)

```
proj1=# select * from joins where eid = 30;
 eid | stime |   sdate    | room_num | floor_num
-----+-------+------------+----------+----------
  30 |    15 | 2021-10-26 |        2 |         1
  30 |    16 | 2021-10-26 |        2 |         1
  30 |    15 | 2021-10-29 |        2 |         1
  30 |    16 | 2021-10-29 |        3 |         1
  30 |    15 | 2021-10-30 |        2 |         1
  30 |    16 | 2021-10-30 |        3 |         1
(6 rows)
```

ONLY OLD JOINED MEETINGS EXIST

Remove_employee (approved but NOT JOINED by 30)

```
proj1=# select * from booksessions where mid = 30;
 stime |   sdate    | room_num | floor_num | bid | mid
-------+------------+----------+-----------+-----+-----
    16 | 2021-10-29 |        3 |         1 |  30 |  30
    16 | 2021-10-30 |        3 |         1 |  30 |  30
    17 | 2021-10-31 |        3 |         1 |  10 |  30
    17 | 2021-11-05 |        3 |         1 |  10 |  30
(4 rows)
```

```
proj1=# select  b.room_num, b.floor_num, b.sdate, b.stime from booksessions b
 b.floor_num = j.floor_num and b.sdate = j.sdate and b.stime = j.stime);
 room_num | floor_num |   sdate    | stime
----------+-----------+------------+-------
        3 |         1 | 2021-10-31 |    17
        3 |         1 | 2021-11-05 |    17
(2 rows)
```

Search_room

Search_room

- search capacity must be lower or equal to capacity of room on search date
- room is available on the search date and time
- order the results by asc

Search_room: total rooms

```
proj1=# select * from meetingrooms;
 room_num | floor_num |           rname           | did
----------+-----------+---------------------------+-----
        1 |         1 | HR Room                   |   1
        2 |         1 | Finance Room              |   2
        3 |         1 | Accounts Room             |   3
        4 |         1 | Records Room              |   4
        5 |         1 | Public relations Room     |   5
        6 |         1 | Sales Room                |   6
        7 |         1 | Marketing Room            |   7
        8 |         1 | Production Room           |   8
        9 |         1 | Research Room             |   9
       10 |         1 | IT Room                   |  10
        1 |         2 | Mechanical Room           |  11
        2 |         2 | Eletrical Room            |  12
        3 |         2 | Embedded Systems Room     |  13
        4 |         2 | AI Room                   |  14
        5 |         2 | ML Room                   |  15
        6 |         2 | Computer Vision Room      |  16
        7 |         2 | Graphics Room             |  17
        8 |         2 | Cyber Security Room       |  18
        9 |         2 | Backend Engineering Room  |  19
       10 |         2 | Frontend Engineering Room |  20
       11 |         2 | Test Room                 |  20
(21 rows)
```

Search_room: rooms cap

```
proj1=# select * from updates;
   udate     | room_num | floor_num | mid | new_cap
-------------+----------+-----------+-----+---------
 2021-09-10 |        1 |         1 |     |       6
 2021-09-10 |        2 |         1 |     |       6
 2021-09-10 |        3 |         1 |     |       9
 2021-09-10 |        4 |         1 |     |       6
 2021-09-10 |        5 |         1 |     |       5
 2021-09-10 |        6 |         1 |     |       5
 2021-09-10 |        7 |         1 |     |       9
 2021-09-10 |        8 |         1 |     |       5
 2021-09-10 |        9 |         1 |     |       9
 2021-09-10 |       10 |         1 |     |       4
 2021-09-10 |        1 |         2 |     |       2
 2021-09-10 |        2 |         2 |     |       7
 2021-09-10 |        3 |         2 |     |       8
 2021-09-10 |        4 |         2 |     |       6
 2021-09-10 |        5 |         2 |     |       7
 2021-09-10 |        6 |         2 |     |       4
 2021-09-10 |        7 |         2 |     |       2
 2021-09-10 |        8 |         2 |     |       4
 2021-09-10 |        9 |         2 |     |       3
 2021-09-10 |       10 |         2 |     |       5
 2021-10-30 |       11 |         2 |     |       5
 2021-10-30 |        1 |         1 |  10 |       2
(22 rows)
```

Search_room: meetings today

```
proj1=# select * from booksessions where sdate = '2021-10-30';
 stime |   sdate    | room_num | floor_num | bid | mid
-------+------------+----------+-----------+-----+-----
     7 | 2021-10-30 |        9 |         1 |  90 |  90
     8 | 2021-10-30 |        9 |         1 |  90 |  90
    12 | 2021-10-30 |       10 |         1 |  99 |
    13 | 2021-10-30 |        8 |         2 |  90 |
    21 | 2021-10-30 |       10 |         1 |  90 | 100
    22 | 2021-10-30 |        8 |         2 | 180 | 180
    23 | 2021-10-30 |        9 |         1 | 119 |  90
    15 | 2021-10-30 |        9 |         1 |  89 |  90
    16 | 2021-10-30 |        8 |         2 |  80 | 180
    17 | 2021-10-30 |        5 |         1 |  79 |  50
    18 | 2021-10-30 |        8 |         2 |  69 |
    19 | 2021-10-30 |       10 |         2 | 199 |
    15 | 2021-10-30 |        1 |         1 |  29 |
    16 | 2021-10-30 |        1 |         1 |   9 |  10
    15 | 2021-10-30 |        2 |         1 |  10 |
    16 | 2021-10-30 |        3 |         1 |  30 |  30
    17 | 2021-10-30 |        4 |         1 |  20 |
    18 | 2021-10-30 |        4 |         1 |  40 |
    17 | 2021-10-30 |        6 |         1 |  80 |
    18 | 2021-10-30 |        6 |         1 | 100 |
(20 rows)
```

Search_room: rooms available for entire day

```
proj1=# select * from search_room(2, '2021-10-30', 0, 23);
 floor_no | room_no | department_id | cap
----------+---------+---------------+-----
        2 |       7 |            17 |   2
        2 |       1 |            11 |   2
        2 |       9 |            19 |   3
        2 |       6 |            16 |   4
        1 |       8 |             8 |   5
        2 |       4 |            14 |   6
        2 |       2 |            12 |   7
        2 |       5 |            15 |   7
        2 |       3 |            13 |   8
        1 |       7 |             7 |   9
(10 rows)
```

Search_room: rooms available for entire day

```
proj1=# select * from meetingrooms m where NOT EXISTS (SELECT 1

 room_num | floor_num |          rname           | did
----------+-----------+--------------------------+-----
        7 |         1 | Marketing Room           |   7
        8 |         1 | Production Room          |   8
        1 |         2 | Mechanical Room          |  11
        2 |         2 | Eletrical Room           |  12
        3 |         2 | Embedded Systems Room    |  13
        4 |         2 | AI Room                  |  14
        5 |         2 | ML Room                  |  15
        6 |         2 | Computer Vision Room     |  16
        7 |         2 | Graphics Room            |  17
        9 |         2 | Backend Engineering Room |  19
       11 |         2 | Test Room                |  20
(11 rows)
```

From Original query.

Output different because new room created not included in our query because of our assumption.

Search_room: as search cap increase…

```
proj1=# select * from search_room(4, '2021-10-30', 0, 23);
 floor_no | room_no | department_id | cap
----------+---------+---------------+-----
        2 |       6 |            16 |   4
        1 |       8 |             8 |   5
        2 |       4 |            14 |   6
        2 |       5 |            15 |   7
        2 |       2 |            12 |   7
        2 |       3 |            13 |   8
        1 |       7 |             7 |   9
(7 rows)

proj1=# select * from search_room(6, '2021-10-30', 0, 23);
 floor_no | room_no | department_id | cap
----------+---------+---------------+-----
        2 |       4 |            14 |   6
        2 |       2 |            12 |   7
        2 |       5 |            15 |   7
        2 |       3 |            13 |   8
        1 |       7 |             7 |   9
(5 rows)

proj1=# select * from search_room(8, '2021-10-30', 0, 23);
 floor_no | room_no | department_id | cap
----------+---------+---------------+-----
        2 |       3 |            13 |   8
        1 |       7 |             7 |   9
(2 rows)
```

Search_room: fully available

```
proj1=# select * from booksessions where sdate = '2021-10-30' and (stime = 15 OR stime = 16);
 stime |   sdate    | room_num | floor_num | bid | mid
-------+------------+----------+-----------+-----+-----
    15 | 2021-10-30 |        9 |         1 |  89 |  90
    16 | 2021-10-30 |        8 |         2 |  80 | 180
    15 | 2021-10-30 |        1 |         1 |  29 |
    16 | 2021-10-30 |        1 |         1 |   9 |  10
    15 | 2021-10-30 |        2 |         1 |  10 |
    16 | 2021-10-30 |        3 |         1 |  30 |  30
(6 rows)
```

Focus: TOP ONE AND BOTTOM ONE

```
proj1=# select * from search_room(8, '2021-10-30', 12, 15);
 floor_no | room_no | department_id | cap
----------+---------+---------------+-----
        2 |       3 |            13 |   8
        1 |       3 |             3 |   9
        1 |       7 |             7 |   9
        1 |       9 |             9 |   9
(4 rows)


proj1=# select * from search_room(8, '2021-10-30', 12, 17);
 floor_no | room_no | department_id | cap
----------+---------+---------------+-----
        2 |       3 |            13 |   8
        1 |       7 |             7 |   9
(2 rows)
```

Search_room: valid inputs

```
proj1=# select * from search_room(8, '2021-10-30', 12, 12);
ERROR:  Start hour must be lower than end hour
CONTEXT:  PL/pgSQL function search_room(integer,date,integer,integer) line 5 at RAISE
proj1=# select * from search_room(8, '2021-10-30', -1, 12);
ERROR:  Invalid hours given.
CONTEXT:  PL/pgSQL function search_room(integer,date,integer,integer) line 9 at RAISE
proj1=# select * from search_room(8, '2021-10-30', 1, 25);
ERROR:  Invalid hours given.
CONTEXT:  PL/pgSQL function search_room(integer,date,integer,integer) line 9 at RAISE
proj1=# select * from search_room(0, '2021-10-30', 1, 23);
ERROR:  Pls input a valid search capacity.
CONTEXT:  PL/pgSQL function search_room(integer,date,integer,integer) line 7 at RAISE
proj1=#
```

book_room

Book_room

- Only senior or manager can book a room (checked by table)
- Person booking the room is not having fever
- (Note: for contact tracing, as long as not having fever, can still book)
- Person booking the room has not resigned
- If room is unavailable even for partial period, STRICTLY disallow the meeting
- Note: Booker can be different dept as room
- Note: Booker can book more than 1 meeting room at the same day and time. We assume the booker rotate between meetings.

Book_room: invalid hours

Command Prompt - psql -U postgres

```
proj1=# call book_room(1, 7, '2021-10-30', 17, 17, 11);
ERROR:  End hour cannot be equal or before start hour of meeting.
CONTEXT:  PL/pgSQL function book_room(integer,integer,date,integer,integer,integer) line 7 at RAISE
proj1=# call book_room(1, 7, '2021-10-30', -1, 17, 11);
ERROR:  Invalid hours given.
CONTEXT:  PL/pgSQL function book_room(integer,integer,date,integer,integer,integer) line 9 at RAISE
proj1=# call book_room(1, 7, '2021-10-30', 17, 15, 11);
ERROR:  End hour cannot be equal or before start hour of meeting.
CONTEXT:  PL/pgSQL function book_room(integer,integer,date,integer,integer,integer) line 7 at RAISE
proj1=#
```

Book_room: cannot be past

Command Prompt - psql -U postgres

```
proj1=# call book_room(1, 7, '2021-10-29', 15, 17, 70);
ERROR:  Booking cannot be made in the past
CONTEXT:  PL/pgSQL function bookroomconstraintscheck() line 6 at RAISE
SQL statement "INSERT INTO BookSessions VALUES(temp, meeting_date, room_no, floor_no, employee_id)"
PL/pgSQL function book_room(integer,integer,date,integer,integer,integer) line 18 at SQL statement
proj1=#
```

Book_room: cannot be junior

```
proj1=# call book_room(1, 7, '2021-10-30', 15, 17, 7);
ERROR:  insert or update on table "booksessions" violates foreign key constraint "booksessions_bid_fkey"
DETAIL:  Key (bid)=(7) is not present in table "booker".
CONTEXT:  SQL statement "INSERT INTO BookSessions VALUES(temp, meeting_date, room_no, floor_no, employee_id)"
PL/pgSQL function book_room(integer,integer,date,integer,integer,integer) line 18 at SQL statement
proj1=#
```

Book_room: resigned

```
proj1=# call book_room(1, 7, '2021-10-30', 15, 17, 109);
ERROR:  Employee 109 has resigned, cannot book any meetings.
CONTEXT:  PL/pgSQL function bookroomconstraintscheck() line 10 at RAISE
SQL statement "INSERT INTO BookSessions VALUES(temp, meeting_date, room_no, floor_no, employee_id)"
PL/pgSQL function book_room(integer,integer,date,integer,integer,integer) line 18 at SQL statement
proj1=#
```

Book_room: fever or did not declare

```
proj1=# call book_room(1, 7, '2021-10-30', 15, 17, 130);
ERROR:  Employee is having a fever or have not declared health, cannot book meeting
CONTEXT:  PL/pgSQL function bookroomconstraintscheck() line 14 at RAISE
SQL statement "INSERT INTO BookSessions VALUES(temp, meeting_date, room_no, floor_no, employee_id)"
PL/pgSQL function book_room(integer,integer,date,integer,integer,integer) line 18 at SQL statement
proj1=# call book_room(1, 7, '2021-10-30', 15, 17, 90);
ERROR:  Employee is having a fever or have not declared health, cannot book meeting
CONTEXT:  PL/pgSQL function bookroomconstraintscheck() line 14 at RAISE
SQL statement "INSERT INTO BookSessions VALUES(temp, meeting_date, room_no, floor_no, employee_id)"
PL/pgSQL function book_room(integer,integer,date,integer,integer,integer) line 18 at SQL statement
proj1=#
```

130: never declare
90: have fever

Book_room: partially or fully unavailable

```
proj1=# select * from booksessions where sdate = '2021-10-30' and room_num = 6 and floor_num = 1;
 stime |   sdate    | room_num | floor_num | bid | mid
-------+------------+----------+-----------+-----+-----
    17 | 2021-10-30 |        6 |         1 |  80 |
    18 | 2021-10-30 |        6 |         1 | 100 |
(2 rows)
```

```
proj1=# select * from booksessions where sdate = '2021-10-30' and stime = 18 and room_num = 6 and floor_num = 1;
 stime |   sdate    | room_num | floor_num | bid | mid
-------+------------+----------+-----------+-----+-----
    18 | 2021-10-30 |        6 |         1 | 100 |
(1 row)


proj1=# call book_room(1, 6, '2021-10-30', 18, 20, 40);
ERROR:  Room not available for some/whole duration. Pls check for availability first!
CONTEXT:  PL/pgSQL function book_room(integer,integer,date,integer,integer,integer) line 15 at RAISE
proj1=# call book_room(1, 6, '2021-10-30', 18, 19, 40);
ERROR:  Room not available for some/whole duration. Pls check for availability first!
CONTEXT:  PL/pgSQL function book_room(integer,integer,date,integer,integer,integer) line 15 at RAISE
proj1=#
```

Book_room: multiple book & can be diff department as room

```
proj1=# call book_room(1, 6, '2021-10-30', 20, 21, 40);
NOTICE:  Employee 40 is added into meeting room #1-6 on date 2021-10-30 from 20:00 to 21:00.
CALL
proj1=# call book_room(1, 6, '2021-10-30', 21, 23, 60);
NOTICE:  Employee 60 is added into meeting room #1-6 on date 2021-10-30 from 21:00 to 22:00.
NOTICE:  Employee 60 is added into meeting room #1-6 on date 2021-10-30 from 22:00 to 23:00.
CALL
proj1=# select * from booksessions where sdate = '2021-10-30' and room_num = 6 and floor_num = 1;
 stime |   sdate    | room_num | floor_num | bid | mid
-------+------------+----------+-----------+-----+-----
    17 | 2021-10-30 |        6 |         1 |  80 |
    18 | 2021-10-30 |        6 |         1 | 100 |
    20 | 2021-10-30 |        6 |         1 |  40 |
    21 | 2021-10-30 |        6 |         1 |  60 |
    22 | 2021-10-30 |        6 |         1 |  60 |
(5 rows)
```

Book_room: multiple book & can be diff department as room

```
proj1=# select * from employees where eid = 40 or eid = 60;
 eid |      ename       |                email                | home_contact | mobile_contact | office_contact | resigned_date | did
-----+------------------+-------------------------------------+--------------+----------------+----------------+---------------+-----
  40 | Leigh Morrison   | LeighMorrison_040@company2102.com   |     64508809 |       89630461 |       69772454 |               |   4
  60 | Jeanette Clayton | JeanetteClayton_060@company2102.com |     62247508 |       83328873 |       67547144 |               |   6
(2 rows)


proj1=# select * from meetingrooms where room_num = 6 and floor_num = 1;
 room_num | floor_num |   rname    | did
----------+-----------+------------+-----
        6 |         1 | Sales Room |   6
(1 row)
```

Book_room: can book multiple same time (we allow as long diff room)

```
proj1=# call book_room(1, 6, '2021-10-30', 20, 21, 40);
ERROR:  Room not available for some/whole duration. Pls check for availability first!
CONTEXT:  PL/pgSQL function book_room(integer,integer,date,integer,integer,integer) line 15 at RAISE
proj1=# call book_room(1, 7, '2021-10-30', 20, 21, 40);
NOTICE:  Employee 40 is added into meeting room #1-7 on date 2021-10-30 from 20:00 to 21:00.
CALL
proj1=# select * from booksessions where bid = 40;
 stime |   sdate    | room_num | floor_num | bid | mid
-------+------------+----------+-----------+-----+-----
    18 | 2021-10-30 |        4 |         1 |  40 |
    20 | 2021-10-30 |        6 |         1 |  40 |
    20 | 2021-10-30 |        7 |         1 |  40 |
(3 rows)
```

Book_room: auto join meeting

```
proj1=# select * from joins where sdate = '2021-10-30' and eid = 40 or eid = 60;
 eid | stime |   sdate    | room_num | floor_num
-----+-------+------------+----------+-----------
  40 |    18 | 2021-10-30 |        4 |         1
  40 |    20 | 2021-10-30 |        6 |         1
  60 |    21 | 2021-10-30 |        6 |         1
  60 |    22 | 2021-10-30 |        6 |         1
  40 |    20 | 2021-10-30 |        7 |         1
(5 rows)
```

For employee 40 & 60

Unbook_room

Unbook_room

- Delete even if approved but haven't been conducted yet
- If meeting has been conducted, cannot unbook (if not screw contact tracing)
- Only booker can delete his/her own meetings

Unbook_room: Invalid hours

```
proj1=# call unbook_room(1, 6, '2021-10-30', 21, 21, 40);
ERROR:  End hour cannot be equal or before start hour of meeting.
CONTEXT:  PL/pgSQL function unbook_room(integer,integer,date,integer,integer,integer) line 4 at RAISE
proj1=# call unbook_room(1, 6, '2021-10-30', 22, 21, 40);
ERROR:  End hour cannot be equal or before start hour of meeting.
CONTEXT:  PL/pgSQL function unbook_room(integer,integer,date,integer,integer,integer) line 4 at RAISE
proj1=# call unbook_room(1, 6, '2021-10-30', 21, 25, 40);
ERROR:  Invalid hours given.
CONTEXT:  PL/pgSQL function unbook_room(integer,integer,date,integer,integer,integer) line 6 at RAISE
proj1=# call unbook_room(1, 6, '2021-10-30', -1, 21, 40);
ERROR:  Invalid hours given.
CONTEXT:  PL/pgSQL function unbook_room(integer,integer,date,integer,integer,integer) line 6 at RAISE
proj1=#
```

Unbook_room: cannot unbook old approved

```
proj1=# select * from booksessions where sdate < '2021-10-30' and room_num = 8 and floor_num = 1;
 stime |   sdate    | room_num | floor_num | bid | mid
-------+------------+----------+-----------+-----+-----
    17 | 2021-10-27 |        8 |         1 |  80 |
    17 | 2021-10-29 |        8 |         1 |  80 |
    18 | 2021-10-27 |        8 |         1 |  79 |  80
    18 | 2021-10-29 |        8 |         1 |  79 |  80
(4 rows)


proj1=# call unbook_room(1, 8, '2021-10-29', 17, 18, 80);
CALL
proj1=# select * from booksessions where sdate < '2021-10-30' and room_num = 8 and floor_num = 1;
 stime |   sdate    | room_num | floor_num | bid | mid
-------+------------+----------+-----------+-----+-----
    17 | 2021-10-27 |        8 |         1 |  80 |
    18 | 2021-10-27 |        8 |         1 |  79 |  80
    18 | 2021-10-29 |        8 |         1 |  79 |  80
(3 rows)


proj1=# call unbook_room(1, 8, '2021-10-29', 18, 19, 79);
ERROR:  Some or all the book session that you want to unbook has been conducted already
CONTEXT:  PL/pgSQL function checkunbookconstraints() line 6 at RAISE
SQL statement "DELETE FROM BookSessions bs
        WHERE bs.bid = employee_id
        AND bs.room_num = room_no
        AND bs.floor_num = floor_no
        AND bs.sdate = meeting_date
        AND bs.stime >= shour
        AND bs.stime < ehour"
PL/pgSQL function unbook_room(integer,integer,date,integer,integer,integer) line 8 at SQL statement
proj1=#
```

Unapprove

Approve

Unbook_room: cannot unbook old approved

```
proj1=# select * from booksessions where sdate < '2021-10-30' and room_num = 8 and floor_num = 1;
 stime |   sdate    | room_num | floor_num | bid | mid
-------+------------+----------+-----------+-----+-----
    17 | 2021-10-27 |        8 |         1 |  80 |
    18 | 2021-10-27 |        8 |         1 |  79 |  80
    18 | 2021-10-29 |        8 |         1 |  79 |  80
(3 rows)


proj1=# call unbook_room(1, 8, '2021-10-27', 17, 18, 80);
CALL
```

Unbook_room: cannot unbook old approved

```
proj1=# select * from booksessions where sdate < '2021-10-30' and room_num = 8 and floor_num = 1;
 stime |   sdate    | room_num | floor_num | bid | mid
-------+------------+----------+-----------+-----+-----
    18 | 2021-10-27 |        8 |         1 |  79 |  80
    18 | 2021-10-29 |        8 |         1 |  79 |  80
(2 rows)


proj1=# call unbook_room(1, 8, '2021-10-27', 18, 19, 79);
ERROR:  Some or all the book session that you want to unbook has been conducted already
CONTEXT:  PL/pgSQL function checkunbookconstraints() line 6 at RAISE
SQL statement "DELETE FROM BookSessions bs
        WHERE bs.bid = employee_id
        AND bs.room_num = room_no
        AND bs.floor_num = floor_no
        AND bs.sdate = meeting_date
        AND bs.stime >= shour
        AND bs.stime < ehour"
PL/pgSQL function unbook_room(integer,integer,date,integer,integer,integer) line 8 at SQL statement
proj1=#
```

Unbook_room: cannot unbook other people booking,

```
proj1=# select * from booksessions where floor_num = 1 and room_num = 6 and sdate = '2021-10-30';
 stime |   sdate    | room_num | floor_num | bid | mid
-------+------------+----------+-----------+-----+-----
    17 | 2021-10-30 |        6 |         1 |  80 |
    18 | 2021-10-30 |        6 |         1 | 100 |
    20 | 2021-10-30 |        6 |         1 |  40 |
    21 | 2021-10-30 |        6 |         1 |  60 |
    22 | 2021-10-30 |        6 |         1 |  60 |
(5 rows)


proj1=# call unbook_room(1, 6, '2021-10-30', 20, 22, 40);
CALL
proj1=# select * from booksessions where floor_num = 1 and room_num = 6 and sdate = '2021-10-30';
 stime |   sdate    | room_num | floor_num | bid | mid
-------+------------+----------+-----------+-----+-----
    17 | 2021-10-30 |        6 |         1 |  80 |
    18 | 2021-10-30 |        6 |         1 | 100 |
    21 | 2021-10-30 |        6 |         1 |  60 |
    22 | 2021-10-30 |        6 |         1 |  60 |
(4 rows)
```

Unbook_room: ignore non existent booking

```
proj1=# select * from booksessions where floor_num = 1 and room_num = 6 and sdate = '2021-10-30';
 stime |   sdate    | room_num | floor_num | bid | mid
-------+------------+----------+-----------+-----+-----
    17 | 2021-10-30 |        6 |         1 |  80 |
    18 | 2021-10-30 |        6 |         1 | 100 |
    21 | 2021-10-30 |        6 |         1 |  60 |
    22 | 2021-10-30 |        6 |         1 |  60 |
(4 rows)


proj1=# call unbook_room(1, 6, '2021-10-30', 20, 23, 60);
CALL
proj1=# select * from booksessions where floor_num = 1 and room_num = 6 and sdate = '2021-10-30';
 stime |   sdate    | room_num | floor_num | bid | mid
-------+------------+----------+-----------+-----+-----
    17 | 2021-10-30 |        6 |         1 |  80 |
    18 | 2021-10-30 |        6 |         1 | 100 |
(2 rows)
```

Unbook_room: delete approved ones

```
proj1=# select * from booksessions where floor_num = 1 and room_num = 8 and sdate = '2021-11-01';
 stime |   sdate    | room_num | floor_num | bid | mid
-------+------------+----------+-----------+-----+-----
    17 | 2021-11-01 |        8 |         1 |  80 |
    18 | 2021-11-01 |        8 |         1 |  79 |  80
(2 rows)


proj1=# call unbook_room(1, 8, '2021-11-1', 18, 19, 79);
CALL
proj1=# select * from booksessions where floor_num = 1 and room_num = 8 and sdate = '2021-11-01';
 stime |   sdate    | room_num | floor_num | bid | mid
-------+------------+----------+-----------+-----+-----
    17 | 2021-11-01 |        8 |         1 |  80 |
(1 row)


proj1=# call unbook_room(1, 8, '2021-11-1', 17, 18, 80);
CALL
proj1=# select * from booksessions where floor_num = 1 and room_num = 8 and sdate = '2021-11-01';
 stime | sdate | room_num | floor_num | bid | mid
-------+-------+----------+-----------+-----+-----
(0 rows)
```

Unbook_room: remove from join

```
proj1=# select * from joins where sdate = '2021-10-30' and eid = 40 or eid = 60;
 eid | stime |   sdate    | room_num | floor_num
-----+-------+------------+----------+-----------
  40 |    18 | 2021-10-30 |        4 |         1
  40 |    20 | 2021-10-30 |        7 |         1
(2 rows)
```

Join_meeting

Join_meeting

- Employee has not resigned
- Employee does not have a fever
- Meeting needs to exist
- Booking status is still pending
- Meeting Room Capacity has not been reached
- Note: We do not check whether employee has other meetings at that time.

Join_meeting: current book sessions with pax

```
proj1=# select b.stime, b.sdate, b.room_num, b.floor_num, b.bid, b.mid,
2021-10-30';
 stime |   sdate    | room_num | floor_num | bid | mid | pax
-------+------------+----------+-----------+-----+-----+-----
     7 | 2021-10-30 |        9 |         1 |  90 |  90 |   1
     8 | 2021-10-30 |        9 |         1 |  90 |  90 |   1
    12 | 2021-10-30 |       10 |         1 |  99 |     |   2
    13 | 2021-10-30 |        8 |         2 |  90 |     |   2
    21 | 2021-10-30 |       10 |         1 |  90 | 100 |   2
    22 | 2021-10-30 |        8 |         2 | 180 | 180 |   2
    23 | 2021-10-30 |        9 |         1 | 119 |  90 |   2
    15 | 2021-10-30 |        9 |         1 |  89 |  90 |   2
    16 | 2021-10-30 |        8 |         2 |  80 | 180 |   2
    17 | 2021-10-30 |        5 |         1 |  79 |  50 |   2
    18 | 2021-10-30 |        8 |         2 |  69 |     |   2
    19 | 2021-10-30 |       10 |         2 | 199 |     |   2
    15 | 2021-10-30 |        1 |         1 |  29 |     |   4
    16 | 2021-10-30 |        1 |         1 |   9 |  10 |   4
    15 | 2021-10-30 |        2 |         1 |  10 |     |   2
    16 | 2021-10-30 |        3 |         1 |  30 |  30 |   2
    17 | 2021-10-30 |        4 |         1 |  20 |     |   1
    18 | 2021-10-30 |        4 |         1 |  40 |     |   1
    17 | 2021-10-30 |        6 |         1 |  80 |     |   1
    18 | 2021-10-30 |        6 |         1 | 100 |     |   1
    20 | 2021-10-30 |        7 |         1 |  40 |     |   1
(21 rows)
```

Join_meeting: current book sessions with pax

Current Pax

```
proj1=# select b.stime, b.sdate, b.room_num, b.floor_num, b.bid, b.mid,
2021-10-30';
 stime |   sdate    | room_num | floor_num | bid | mid | pax
-------+------------+----------+-----------+-----+-----+-----
     7 | 2021-10-30 |        9 |         1 |  90 |  90 |   1
     8 | 2021-10-30 |        9 |         1 |  90 |  90 |   1
    12 | 2021-10-30 |       10 |         1 |  99 |     |   2
    13 | 2021-10-30 |        8 |         2 |  90 |     |   2
    21 | 2021-10-30 |       10 |         1 |  90 | 100 |   2
    22 | 2021-10-30 |        8 |         2 | 180 | 180 |   2
    23 | 2021-10-30 |        9 |         1 | 119 |  90 |   2
    15 | 2021-10-30 |        9 |         1 |  89 |  90 |   2
    16 | 2021-10-30 |        8 |         2 |  80 | 180 |   2
    17 | 2021-10-30 |        5 |         1 |  79 |  50 |   2
    18 | 2021-10-30 |        8 |         2 |  69 |     |   2
    19 | 2021-10-30 |       10 |         2 | 199 |     |   2
    15 | 2021-10-30 |        1 |         1 |  29 |     |   4
    16 | 2021-10-30 |        1 |         1 |   9 |  10 |   4
    15 | 2021-10-30 |        2 |         1 |  10 |     |   2
    16 | 2021-10-30 |        3 |         1 |  30 |  30 |   2
    17 | 2021-10-30 |        4 |         1 |  20 |     |   1
    18 | 2021-10-30 |        4 |         1 |  40 |     |   1
    17 | 2021-10-30 |        6 |         1 |  80 |     |   1
    18 | 2021-10-30 |        6 |         1 | 100 |     |   1
    20 | 2021-10-30 |        7 |         1 |  40 |     |   1
(21 rows)
```

```
proj1=# select * from updates where floor_num = 1 and room_num = 6;
   udate     | room_num | floor_num | mid | new_cap
-------------+----------+-----------+-----+---------
 2021-09-10 |        6 |         1 |     |       5
(1 row)


proj1=# select * from updates where floor_num = 1 and room_num = 7;
   udate     | room_num | floor_num | mid | new_cap
-------------+----------+-----------+-----+---------
 2021-09-10 |        7 |         1 |     |       9
(1 row)
```

Max Pax

Join_meeting: invalid hours

```
proj1=# call join_meeting(1, 7, '2021-10-30', 21, 21, 41);
ERROR:  End hour cannot be equal or before start hour of meeting.
CONTEXT:  PL/pgSQL function join_meeting(integer,integer,date,integer,integer,integer) line 8 at RAISE
proj1=# call join_meeting(1, 7, '2021-10-30', -1, 21, 41);
ERROR:  Invalid hours given.
CONTEXT:  PL/pgSQL function join_meeting(integer,integer,date,integer,integer,integer) line 10 at RAISE
proj1=# call join_meeting(1, 7, '2021-10-30', 1, 25, 41);
ERROR:  Invalid hours given.
CONTEXT:  PL/pgSQL function join_meeting(integer,integer,date,integer,integer,integer) line 10 at RAISE
proj1=#
```

Join_meeting: resigned employee

```
proj1=# select * from booksessions where floor_num = 1 and room_num = 6 and sdate = '2021-10-30';
 stime |   sdate    | room_num | floor_num | bid | mid
-------+------------+----------+-----------+-----+-----
    17 | 2021-10-30 |        6 |         1 |  80 |
    18 | 2021-10-30 |        6 |         1 | 100 |
(2 rows)
```

```
proj1=# call join_meeting(1, 6, '2021-10-30', 17, 19, 110);
NOTICE:  start time: 17:00
ERROR:  Employee 110 has resigned, cannot join any meetings.
CONTEXT:  PL/pgSQL function joinmeetingconstraintscheck() line 6 at RAISE
SQL statement "INSERT INTO Joins VALUES (emp_id, curr_time, meet_date, room_n, floor_n)"
PL/pgSQL function join_meeting(integer,integer,date,integer,integer,integer) line 21 at SQL statement
proj1=#
```

Join_meeting: employee having fever or never declare temperature

```
proj1=# call join_meeting(1, 6, '2021-10-30', 17, 19, 90);
NOTICE:  start time: 17:00
ERROR:  Employee is having a fever or have not declared health, cannot join meeting
CONTEXT:  PL/pgSQL function joinmeetingconstraintscheck() line 12 at RAISE
SQL statement "INSERT INTO Joins VALUES (emp_id, curr_time, meet_date, room_n, floor_n)"
PL/pgSQL function join_meeting(integer,integer,date,integer,integer,integer) line 21 at SQL statement
proj1=# call join_meeting(1, 6, '2021-10-30', 17, 19, 130);
NOTICE:  start time: 17:00
ERROR:  Employee is having a fever or have not declared health, cannot join meeting
CONTEXT:  PL/pgSQL function joinmeetingconstraintscheck() line 12 at RAISE
SQL statement "INSERT INTO Joins VALUES (emp_id, curr_time, meet_date, room_n, floor_n)"
PL/pgSQL function join_meeting(integer,integer,date,integer,integer,integer) line 21 at SQL statement
proj1=#
```

90: having fever
130: never declare temperature

Join_meeting: booking status is pending

```
proj1=# select b.stime, b.sdate, b.room_num, b.floor_num, b.bid, b.mid, (MeetingPax
2021-10-30';
 stime |   sdate    | room_num | floor_num | bid | mid | pax
-------+------------+----------+-----------+-----+-----+-----
     7 | 2021-10-30 |        9 |         1 |  90 |  90 |   1
     8 | 2021-10-30 |        9 |         1 |  90 |  90 |   1
    12 | 2021-10-30 |       10 |         1 |  99 |     |   2
    13 | 2021-10-30 |        8 |         2 |  90 |     |   2
    21 | 2021-10-30 |       10 |         1 |  90 | 100 |   2
    22 | 2021-10-30 |        8 |         2 | 180 | 180 |   2
    23 | 2021-10-30 |        9 |         1 | 119 |  90 |   2
    15 | 2021-10-30 |        9 |         1 |  89 |  90 |   2
    16 | 2021-10-30 |        8 |         2 |  80 | 180 |   2
    17 | 2021-10-30 |        5 |         1 |  79 |  50 |   2
    18 | 2021-10-30 |        8 |         2 |  69 |     |   2
    19 | 2021-10-30 |       10 |         2 | 199 |     |   2
    15 | 2021-10-30 |        1 |         1 |  29 |     |   4
    16 | 2021-10-30 |        1 |         1 |   9 |  10 |   4
    15 | 2021-10-30 |        2 |         1 |  10 |     |   2
    16 | 2021-10-30 |        3 |         1 |  30 |  30 |   2
    17 | 2021-10-30 |        4 |         1 |  20 |     |   1
    18 | 2021-10-30 |        4 |         1 |  40 |     |   1
    17 | 2021-10-30 |        6 |         1 |  80 |     |   1
    18 | 2021-10-30 |        6 |         1 | 100 |     |   1
    20 | 2021-10-30 |        7 |         1 |  40 |     |   1
(21 rows)
```

Join_meeting: booking status is pending

Can join pending meetings

```
proj1=# call join_meeting(1, 6, '2021-10-30', 17, 19, 111);
NOTICE:  start time: 17:00
NOTICE:  Employee 111 is added into meeting room #1-6 on date 2021-10-30 from 17:00 to 18:00.
NOTICE:  start time: 18:00
NOTICE:  Employee 111 is added into meeting room #1-6 on date 2021-10-30 from 18:00 to 19:00.
CALL
proj1=# select b.stime, b.sdate, b.room_num, b.floor_num, b.bid, b.mid, (MeetingPax(b.room_num,
2021-10-30’;
 stime |   sdate    | room_num | floor_num | bid | mid | pax
-------+------------+----------+-----------+-----+-----+-----
     7 | 2021-10-30 |        9 |         1 |  90 |  90 |   1
     8 | 2021-10-30 |        9 |         1 |  90 |  90 |   1
    12 | 2021-10-30 |       10 |         1 |  99 |     |   2
    13 | 2021-10-30 |        8 |         2 |  90 |     |   2
    21 | 2021-10-30 |       10 |         1 |  90 | 100 |   2
    22 | 2021-10-30 |        8 |         2 | 180 | 180 |   2
    23 | 2021-10-30 |        9 |         1 | 119 |  90 |   2
    15 | 2021-10-30 |        9 |         1 |  89 |  90 |   2
    16 | 2021-10-30 |        8 |         2 |  80 | 180 |   2
    17 | 2021-10-30 |        5 |         1 |  79 |  50 |   2
    18 | 2021-10-30 |        8 |         2 |  69 |     |   2
    19 | 2021-10-30 |       10 |         2 | 199 |     |   2
    15 | 2021-10-30 |        1 |         1 |  29 |     |   4
    16 | 2021-10-30 |        1 |         1 |   9 |  10 |   4
    15 | 2021-10-30 |        2 |         1 |  10 |     |   2
    16 | 2021-10-30 |        3 |         1 |  30 |  30 |   2
    17 | 2021-10-30 |        4 |         1 |  20 |     |   1
    18 | 2021-10-30 |        4 |         1 |  40 |     |   1
    17 | 2021-10-30 |        6 |         1 |  80 |     |   2
    18 | 2021-10-30 |        6 |         1 | 100 |     |   2
    20 | 2021-10-30 |        7 |         1 |  40 |     |   1
(21 rows)
```

Join_meeting: booking status is pending

```
proj1=# select b.stime, b.sdate, b.room_num, b.floor_num, b.bid, b.
2021-10-30';
 stime |   sdate    | room_num | floor_num | bid | mid | pax
-------+------------+----------+-----------+-----+-----+-----
     7 | 2021-10-30 |        9 |         1 |  90 |  90 |   1
     8 | 2021-10-30 |        9 |         1 |  90 |  90 |   1
    12 | 2021-10-30 |       10 |         1 |  99 |     |   2
    13 | 2021-10-30 |        8 |         2 |  90 |     |   2
    21 | 2021-10-30 |       10 |         1 |  90 | 100 |   2
    22 | 2021-10-30 |        8 |         2 | 180 | 180 |   2
    23 | 2021-10-30 |        9 |         1 | 119 |  90 |   2
    15 | 2021-10-30 |        9 |         1 |  89 |  90 |   2
    16 | 2021-10-30 |        8 |         2 |  80 | 180 |   2
    17 | 2021-10-30 |        5 |         1 |  79 |  50 |   2
    18 | 2021-10-30 |        8 |         2 |  69 |     |   2
    19 | 2021-10-30 |       10 |         2 | 199 |     |   2
    15 | 2021-10-30 |        1 |         1 |  29 |     |   4
    16 | 2021-10-30 |        1 |         1 |   9 |  10 |   4
    15 | 2021-10-30 |        2 |         1 |  10 |     |   2
    16 | 2021-10-30 |        3 |         1 |  30 |  30 |   2
    17 | 2021-10-30 |        4 |         1 |  20 |     |   1
    18 | 2021-10-30 |        4 |         1 |  40 |     |   1
    17 | 2021-10-30 |        6 |         1 |  80 |     |   2
    18 | 2021-10-30 |        6 |         1 | 100 |     |   2
    20 | 2021-10-30 |        7 |         1 |  40 |     |   1
(21 rows)
```

Join_meeting: booking status is pending.

Cannot join approved meetings

```
proj1=# call join_meeting(1, 9, '2021-10-30', 7, 9, 140);
NOTICE:  start time: 7:00
NOTICE:  Meeting has already been approved from 7:00 to 8:00
NOTICE:  start time: 8:00
NOTICE:  Meeting has already been approved from 8:00 to 9:00
CALL
proj1=# select b.stime, b.sdate, b.room_num, b.floor_num, b.bid, b.mid,
2021-10-30';
 stime |   sdate    | room_num | floor_num | bid | mid | pax
-------+------------+----------+-----------+-----+-----+-----
     7 | 2021-10-30 |        9 |         1 |  90 |  90 |   1
     8 | 2021-10-30 |        9 |         1 |  90 |  90 |   1
    12 | 2021-10-30 |       10 |         1 |  99 |     |   2
    13 | 2021-10-30 |        8 |         2 |  90 |     |   2
    21 | 2021-10-30 |       10 |         1 |  90 | 100 |   2
    22 | 2021-10-30 |        8 |         2 | 180 | 180 |   2
    23 | 2021-10-30 |        9 |         1 | 119 |  90 |   2
    15 | 2021-10-30 |        9 |         1 |  89 |  90 |   2
    16 | 2021-10-30 |        8 |         2 |  80 | 180 |   2
    17 | 2021-10-30 |        5 |         1 |  79 |  50 |   2
    18 | 2021-10-30 |        8 |         2 |  69 |     |   2
    19 | 2021-10-30 |       10 |         2 | 199 |     |   2
    15 | 2021-10-30 |        1 |         1 |  29 |     |   4
    16 | 2021-10-30 |        1 |         1 |   9 |  10 |   4
    15 | 2021-10-30 |        2 |         1 |  10 |     |   2
    16 | 2021-10-30 |        3 |         1 |  30 |  30 |   2
    17 | 2021-10-30 |        4 |         1 |  20 |     |   1
    18 | 2021-10-30 |        4 |         1 |  40 |     |   1
    17 | 2021-10-30 |        6 |         1 |  80 |     |   2
    18 | 2021-10-30 |        6 |         1 | 100 |     |   2
    20 | 2021-10-30 |        7 |         1 |  40 |     |   1
(21 rows)
```

Join_meeting:
Ignore non existent meeting

```
proj1=# select b.stime, b.sdate, b.room_num, b.floor_num, b.bid,
2021-10-30';
 stime |   sdate    | room_num | floor_num | bid | mid | pax
-------+------------+----------+-----------+-----+-----+-----
     7 | 2021-10-30 |        9 |         1 |  90 |  90 |   1
     8 | 2021-10-30 |        9 |         1 |  90 |  90 |   1
    12 | 2021-10-30 |       10 |         1 |  99 |     |   2
    13 | 2021-10-30 |        8 |         2 |  90 |     |   2
    21 | 2021-10-30 |       10 |         1 |  90 | 100 |   2
    22 | 2021-10-30 |        8 |         2 | 180 | 180 |   2
    23 | 2021-10-30 |        9 |         1 | 119 |  90 |   2
    15 | 2021-10-30 |        9 |         1 |  89 |  90 |   2
    16 | 2021-10-30 |        8 |         2 |  80 | 180 |   2
    17 | 2021-10-30 |        5 |         1 |  79 |  50 |   2
    18 | 2021-10-30 |        8 |         2 |  69 |     |   2
    19 | 2021-10-30 |       10 |         2 | 199 |     |   2
    15 | 2021-10-30 |        1 |         1 |  29 |     |   4
    16 | 2021-10-30 |        1 |         1 |   9 |  10 |   4
    15 | 2021-10-30 |        2 |         1 |  10 |     |   2
    16 | 2021-10-30 |        3 |         1 |  30 |  30 |   2
    17 | 2021-10-30 |        4 |         1 |  20 |     |   1
    18 | 2021-10-30 |        4 |         1 |  40 |     |   1
    17 | 2021-10-30 |        6 |         1 |  80 |     |   2
    18 | 2021-10-30 |        6 |         1 | 100 |     |   2
    20 | 2021-10-30 |        7 |         1 |  40 |     |   1
(21 rows)
```

Join_meeting: Ignore non existent meeting

```
proj1=# call join_meeting(1, 4, '2021-10-30', 17, 21, 145);
NOTICE:  start time: 17:00
NOTICE:  Employee 145 is added into meeting room #1-4 on date 2021-10-30 from 17:00 to 18:00.
NOTICE:  start time: 18:00
NOTICE:  Employee 145 is added into meeting room #1-4 on date 2021-10-30 from 18:00 to 19:00.
NOTICE:  start time: 19:00
NOTICE:  Booking does not exists at time 19:00.
NOTICE:  start time: 20:00
NOTICE:  Booking does not exists at time 20:00.
CALL
proj1=# select b.stime, b.sdate, b.room_num, b.floor_num, b.bid, b.mid, (MeetingPax(b.room_num
2021-10-30';
 stime |   sdate    | room_num | floor_num | bid | mid | pax
-------+------------+----------+-----------+-----+-----+-----
     7 | 2021-10-30 |        9 |         1 |  90 |  90 |   1
     8 | 2021-10-30 |        9 |         1 |  90 |  90 |   1
    12 | 2021-10-30 |       10 |         1 |  99 |     |   2
    13 | 2021-10-30 |        8 |         2 |  90 |     |   2
    21 | 2021-10-30 |       10 |         1 |  90 | 100 |   2
    22 | 2021-10-30 |        8 |         2 | 180 | 180 |   2
    23 | 2021-10-30 |        9 |         1 | 119 |  90 |   2
    15 | 2021-10-30 |        9 |         1 |  89 |  90 |   2
    16 | 2021-10-30 |        8 |         2 |  80 | 180 |   2
    17 | 2021-10-30 |        5 |         1 |  79 |  50 |   2
    18 | 2021-10-30 |        8 |         2 |  69 |     |   2
    19 | 2021-10-30 |       10 |         2 | 199 |     |   2
    15 | 2021-10-30 |        1 |         1 |  29 |     |   4
    16 | 2021-10-30 |        1 |         1 |   9 |  10 |   4
    15 | 2021-10-30 |        2 |         1 |  10 |     |   2
    16 | 2021-10-30 |        3 |         1 |  30 |  30 |   2
    17 | 2021-10-30 |        4 |         1 |  20 |     |   2
    18 | 2021-10-30 |        4 |         1 |  40 |     |   2
    17 | 2021-10-30 |        6 |         1 |  80 |     |   2
    18 | 2021-10-30 |        6 |         1 | 100 |     |   2
    20 | 2021-10-30 |        7 |         1 |  40 |     |   1
(21 rows)
```

Join_meeting: meeting cap not reached

```
proj1=# select b.stime, b.sdate, b.room_num, b.floor_num, b.bid, b
2021-10-30';
 stime |   sdate    | room_num | floor_num | bid | mid | pax
-------+------------+----------+-----------+-----+-----+-----
     7 | 2021-10-30 |        9 |         1 |  90 |  90 |   1
     8 | 2021-10-30 |        9 |         1 |  90 |  90 |   1
    12 | 2021-10-30 |       10 |         1 |  99 |     |   2
    13 | 2021-10-30 |        8 |         2 |  90 |     |   2
    21 | 2021-10-30 |       10 |         1 |  90 | 100 |   2
    22 | 2021-10-30 |        8 |         2 | 180 | 180 |   2
    23 | 2021-10-30 |        9 |         1 | 119 |  90 |   2
    15 | 2021-10-30 |        9 |         1 |  89 |  90 |   2
    16 | 2021-10-30 |        8 |         2 |  80 | 180 |   2
    17 | 2021-10-30 |        5 |         1 |  79 |  50 |   2
    18 | 2021-10-30 |        8 |         2 |  69 |     |   2
    19 | 2021-10-30 |       10 |         2 | 199 |     |   2
    15 | 2021-10-30 |        1 |         1 |  29 |     |   4
    16 | 2021-10-30 |        1 |         1 |   9 |  10 |   4
    15 | 2021-10-30 |        2 |         1 |  10 |     |   2
    16 | 2021-10-30 |        3 |         1 |  30 |  30 |   2
    17 | 2021-10-30 |        4 |         1 |  20 |     |   2
    18 | 2021-10-30 |        4 |         1 |  40 |     |   2
    17 | 2021-10-30 |        6 |         1 |  80 |     |   2
    18 | 2021-10-30 |        6 |         1 | 100 |     |   2
    20 | 2021-10-30 |        7 |         1 |  40 |     |   1
(21 rows)
```

Join_meeting: meeting cap not reached

```
proj1=# select * from updates where floor_num = 1 and room_num = 6;
   udate    | room_num | floor_num | mid | new_cap
------------+----------+-----------+-----+---------
 2021-09-10 |        6 |         1 |     |       5
(1 row)
```

Join_meeting: meeting cap not reached

```
NOTICE:  Employee 32 is added into meeting room #1-6 on date 2021-10-30 from 18:00 to 19:00.
NOTICE:  start time: 19:00
NOTICE:  Booking does not exists at time 19:00.
CALL
proj1=# call join_meeting(1, 6, '2021-10-30', 17, 20, 33);
NOTICE:  start time: 17:00
NOTICE:  Employee 33 is added into meeting room #1-6 on date 2021-10-30 from 17:00 to 18:00.
NOTICE:  start time: 18:00
NOTICE:  Employee 33 is added into meeting room #1-6 on date 2021-10-30 from 18:00 to 19:00.
NOTICE:  start time: 19:00
NOTICE:  Booking does not exists at time 19:00.
CALL
proj1=# select b.stime, b.sdate, b.room_num, b.floor_num, b.bid, b.mid, (MeetingPax(b.room_num,
2021-10-30';
 stime |   sdate    | room_num | floor_num | bid | mid | pax
-------+------------+----------+-----------+-----+-----+-----
     7 | 2021-10-30 |        9 |         1 |  90 |  90 |   1
     8 | 2021-10-30 |        9 |         1 |  90 |  90 |   1
    12 | 2021-10-30 |       10 |         1 |  99 |     |   2
    13 | 2021-10-30 |        8 |         2 |  90 |     |   2
    21 | 2021-10-30 |       10 |         1 |  90 | 100 |   2
    22 | 2021-10-30 |        8 |         2 | 180 | 180 |   2
    23 | 2021-10-30 |        9 |         1 | 119 |  90 |   2
    15 | 2021-10-30 |        9 |         1 |  89 |  90 |   2
    16 | 2021-10-30 |        8 |         2 |  80 | 180 |   2
    17 | 2021-10-30 |        5 |         1 |  79 |  50 |   2
    18 | 2021-10-30 |        8 |         2 |  69 |     |   2
    19 | 2021-10-30 |       10 |         2 | 199 |     |   2
    15 | 2021-10-30 |        1 |         1 |  29 |     |   4
    16 | 2021-10-30 |        1 |         1 |   9 |  10 |   4
    15 | 2021-10-30 |        2 |         1 |  10 |     |   2
    16 | 2021-10-30 |        3 |         1 |  30 |  30 |   2
    17 | 2021-10-30 |        4 |         1 |  20 |     |   2
    18 | 2021-10-30 |        4 |         1 |  40 |     |   2
    17 | 2021-10-30 |        6 |         1 |  80 |     |   4
    18 | 2021-10-30 |        6 |         1 | 100 |     |   4
    20 | 2021-10-30 |        7 |         1 |  40 |     |   1
(21 rows)
```

Join_meeting: meeting cap not reached (5 people reached already)

```
proj1=# call join_meeting(1, 6, '2021-10-30', 17, 20, 38);
NOTICE:  start time: 17:00
NOTICE:  Employee 38 is added into meeting room #1-6 on date 2021-10-30 from 17:00 to 18:00.
NOTICE:  start time: 18:00
NOTICE:  Employee 38 is added into meeting room #1-6 on date 2021-10-30 from 18:00 to 19:00.
NOTICE:  start time: 19:00
NOTICE:  Booking does not exists at time 19:00.
CALL
proj1=# select b.stime, b.sdate, b.room_num, b.floor_num, b.bid, b.mid, (MeetingPax(b.room_nu
2021-10-30';
 stime |   sdate    | room_num | floor_num | bid | mid | pax
-------+------------+----------+-----------+-----+-----+-----
     7 | 2021-10-30 |        9 |         1 |  90 |  90 |   1
     8 | 2021-10-30 |        9 |         1 |  90 |  90 |   1
    12 | 2021-10-30 |       10 |         1 |  99 |     |   2
    13 | 2021-10-30 |        8 |         2 |  90 |     |   2
    21 | 2021-10-30 |       10 |         1 |  90 | 100 |   2
    22 | 2021-10-30 |        8 |         2 | 180 | 180 |   2
    23 | 2021-10-30 |        9 |         1 | 119 |  90 |   2
    15 | 2021-10-30 |        9 |         1 |  89 |  90 |   2
    16 | 2021-10-30 |        8 |         2 |  80 | 180 |   2
    17 | 2021-10-30 |        5 |         1 |  79 |  50 |   2
    18 | 2021-10-30 |        8 |         2 |  69 |     |   2
    19 | 2021-10-30 |       10 |         2 | 199 |     |   2
    15 | 2021-10-30 |        1 |         1 |  29 |     |   4
    16 | 2021-10-30 |        1 |         1 |   9 |  10 |   4
    15 | 2021-10-30 |        2 |         1 |  10 |     |   2
    16 | 2021-10-30 |        3 |         1 |  30 |  30 |   2
    17 | 2021-10-30 |        4 |         1 |  20 |     |   2
    18 | 2021-10-30 |        4 |         1 |  40 |     |   2
    17 | 2021-10-30 |        6 |         1 |  80 |     |   5
    18 | 2021-10-30 |        6 |         1 | 100 |     |   5
    20 | 2021-10-30 |        7 |         1 |  40 |     |   1
(21 rows)
```

Join_meeting: meeting cap not reached

CAP HAS REACHED

```
proj1=# call join_meeting(1, 6, '2021-10-30', 17, 20, 66);
NOTICE:  start time: 17:00
NOTICE:  Meeting has reached full capacity, cannot join meeting at time 17:00.
NOTICE:  start time: 18:00
NOTICE:  Meeting has reached full capacity, cannot join meeting at time 18:00.
NOTICE:  start time: 19:00
NOTICE:  Booking does not exists at time 19:00.
CALL
proj1=# select b.stime, b.sdate, b.room_num, b.floor_num, b.bid, b.mid, (MeetingP
2021-10-30';
 stime |   sdate    | room_num | floor_num | bid | mid | pax
-------+------------+----------+-----------+-----+-----+-----
     7 | 2021-10-30 |        9 |         1 |  90 |  90 |   1
     8 | 2021-10-30 |        9 |         1 |  90 |  90 |   1
    12 | 2021-10-30 |       10 |         1 |  99 |     |   2
    13 | 2021-10-30 |        8 |         2 |  90 |     |   2
    21 | 2021-10-30 |       10 |         1 |  90 | 100 |   2
    22 | 2021-10-30 |        8 |         2 | 180 | 180 |   2
    23 | 2021-10-30 |        9 |         1 | 119 |  90 |   2
    15 | 2021-10-30 |        9 |         1 |  89 |  90 |   2
    16 | 2021-10-30 |        8 |         2 |  80 | 180 |   2
    17 | 2021-10-30 |        5 |         1 |  79 |  50 |   2
    18 | 2021-10-30 |        8 |         2 |  69 |     |   2
    19 | 2021-10-30 |       10 |         2 | 199 |     |   2
    15 | 2021-10-30 |        1 |         1 |  29 |     |   4
    16 | 2021-10-30 |        1 |         1 |   9 |  10 |   4
    15 | 2021-10-30 |        2 |         1 |  10 |     |   2
    16 | 2021-10-30 |        3 |         1 |  30 |  30 |   2
    17 | 2021-10-30 |        4 |         1 |  20 |     |   2
    18 | 2021-10-30 |        4 |         1 |  40 |     |   2
    17 | 2021-10-30 |        6 |         1 |  80 |     |   5
    18 | 2021-10-30 |        6 |         1 | 100 |     |   5
    20 | 2021-10-30 |        7 |         1 |  40 |     |   1
(21 rows)
```

Join_meeting: meeting cap not reached

Attendees

```
proj1=# select * from joins where sdate = '2021-10-30' and (stime = 17 or stime = 18) and room_num = 6 and floor_num = 1;
 eid | stime |   sdate    | room_num | floor_num
-----+-------+------------+----------+-----------
  32 |    17 | 2021-10-30 |        6 |         1
  32 |    18 | 2021-10-30 |        6 |         1
  33 |    17 | 2021-10-30 |        6 |         1
  33 |    18 | 2021-10-30 |        6 |         1
  38 |    17 | 2021-10-30 |        6 |         1
  38 |    18 | 2021-10-30 |        6 |         1
  80 |    17 | 2021-10-30 |        6 |         1
 100 |    18 | 2021-10-30 |        6 |         1
 111 |    17 | 2021-10-30 |        6 |         1
 111 |    18 | 2021-10-30 |        6 |         1
(10 rows)
```

leave_meeting

Leave_meeting

- Employee must be in the meeting
- Meeting status still pending
- Assumption: Total participants reach 0 or Booker leaves meeting, booking deleted

leave_meeting: invalid hours

Command Prompt - psql -U postgres

```
proj1=# call leave_meeting(1, 6, '2021-10-30', 17, 17, 38);
ERROR:  End hour cannot be equal or before start hour of meeting.
CONTEXT:  PL/pgSQL function leave_meeting(integer,integer,date,integer,integer,integer) line 9 at RAISE
proj1=# call leave_meeting(1, 6, '2021-10-30', -1, 17, 38);
ERROR:  Invalid hours given.
CONTEXT:  PL/pgSQL function leave_meeting(integer,integer,date,integer,integer,integer) line 12 at RAISE
proj1=# call leave_meeting(1, 6, '2021-10-30', 1, 25, 38);
ERROR:  Invalid hours given.
CONTEXT:  PL/pgSQL function leave_meeting(integer,integer,date,integer,integer,integer) line 12 at RAISE
proj1=#
```

leave_meeting: cannot unjoin past meeting

```
proj1=# call leave_meeting(1, 8, '2021-10-29’, 18, 19, 80);
ERROR:  One cannot unjoin meetings in the past!
CONTEXT:  PL/pgSQL function leave_meeting(integer,integer,date,integer,integer,integer) line 15 at RAISE
proj1=# call leave_meeting(1, 1, '2021-10-26', 15, 16, 19);
ERROR:  One cannot unjoin meetings in the past!
CONTEXT:  PL/pgSQL function leave_meeting(integer,integer,date,integer,integer,integer) line 15 at RAISE
proj1=#
```

leave_meeting: meeting does not exist or employee not in meeting

```
proj1=# select * from booksessions where sdate = '2021-10-30' and room_num = 6 and floor_num = 1;
 stime |   sdate    | room_num | floor_num | bid | mid
-------+------------+----------+-----------+-----+-----
    17 | 2021-10-30 |        6 |         1 |  80 |
    18 | 2021-10-30 |        6 |         1 | 100 |
(2 rows)


proj1=# call leave_meeting(1, 6, '2021-10-30', 15, 19, 38);
NOTICE:  start time: 15:00
NOTICE:  Employee not in meeting from 15:00 to 16:00 or meeting does not exists
NOTICE:  start time: 16:00
NOTICE:  Employee not in meeting from 16:00 to 17:00 or meeting does not exists
NOTICE:  start time: 17:00
NOTICE:  Employee 38 is removed from meeting on 2021-10-30 at meeting room #1-6 from 17:00 to 18:00
NOTICE:  start time: 18:00
NOTICE:  Employee 38 is removed from meeting on 2021-10-30 at meeting room #1-6 from 18:00 to 19:00
CALL
proj1=# call leave_meeting(1, 6, '2021-10-30', 17, 19, 48);
NOTICE:  start time: 17:00
NOTICE:  Employee not in meeting from 17:00 to 18:00 or meeting does not exists
NOTICE:  start time: 18:00
NOTICE:  Employee not in meeting from 18:00 to 19:00 or meeting does not exists
CALL
proj1=#
```

leave_meeting: meeting does not exist or employee not in meeting

```
proj1=# select b.stime, b.sdate, b.room_num, b.floor_num, b.bid, b.mid, (M
2021-10-30';
 stime |   sdate    | room_num | floor_num | bid | mid | pax
-------+------------+----------+-----------+-----+-----+-----
     7 | 2021-10-30 |        9 |         1 |  90 |  90 |   1
     8 | 2021-10-30 |        9 |         1 |  90 |  90 |   1
    12 | 2021-10-30 |       10 |         1 |  99 |     |   2
    13 | 2021-10-30 |        8 |         2 |  90 |     |   2
    21 | 2021-10-30 |       10 |         1 |  90 | 100 |   2
    22 | 2021-10-30 |        8 |         2 | 180 | 180 |   2
    23 | 2021-10-30 |        9 |         1 | 119 |  90 |   2
    15 | 2021-10-30 |        9 |         1 |  89 |  90 |   2
    16 | 2021-10-30 |        8 |         2 |  80 | 180 |   2
    17 | 2021-10-30 |        5 |         1 |  79 |  50 |   2
    18 | 2021-10-30 |        8 |         2 |  69 |     |   2
    19 | 2021-10-30 |       10 |         2 | 199 |     |   2
    15 | 2021-10-30 |        1 |         1 |  29 |     |   4
    16 | 2021-10-30 |        1 |         1 |   9 |  10 |   4
    15 | 2021-10-30 |        2 |         1 |  10 |     |   2
    16 | 2021-10-30 |        3 |         1 |  30 |  30 |   2
    17 | 2021-10-30 |        4 |         1 |  20 |     |   2
    18 | 2021-10-30 |        4 |         1 |  40 |     |   2
    17 | 2021-10-30 |        6 |         1 |  80 |     |   4
    18 | 2021-10-30 |        6 |         1 | 100 |     |   4
    20 | 2021-10-30 |        7 |         1 |  40 |     |   1
(21 rows)
```

leave_meeting: approved meeting

```
proj1=# select * from booksessions where sdate = '2021-10-30' and room_num = 9 and floor_num = 1;
 stime |   sdate    | room_num | floor_num | bid | mid
-------+------------+----------+-----------+-----+-----
     7 | 2021-10-30 |        9 |         1 |  90 |  90
     8 | 2021-10-30 |        9 |         1 |  90 |  90
    15 | 2021-10-30 |        9 |         1 |  89 |  90
    23 | 2021-10-30 |        9 |         1 | 119 |  90
(4 rows)


proj1=# call leave_meeting(1, 9, '2021-10-30', 7, 8, 90);
NOTICE:  start time: 7:00
NOTICE:  Room is already approved from 7:00 to 8:00, employee cannot leave meeting
CALL
proj1=#
```

leave_meeting: if booker leave, delete meeting

```
proj1=# select b.stime, b.sdate, b.room_num, b.floor_num, b.bid, b.mid, (MeetingPax(b.room_num, b.flo
2021-10-30’;
 stime |   sdate    | room_num | floor_num | bid | mid | pax
-------+------------+----------+-----------+-----+-----+-----
     7 | 2021-10-30 |        9 |         1 |  90 |  90 |   1
     8 | 2021-10-30 |        9 |         1 |  90 |  90 |   1
    12 | 2021-10-30 |       10 |         1 |  99 |     |   2
    13 | 2021-10-30 |        8 |         2 |  90 |     |   2
    21 | 2021-10-30 |       10 |         1 |  90 | 100 |   2
    22 | 2021-10-30 |        8 |         2 | 180 | 180 |   2
    23 | 2021-10-30 |        9 |         1 | 119 |  90 |   2
    15 | 2021-10-30 |        9 |         1 |  89 |  90 |   2
    16 | 2021-10-30 |        8 |         2 |  80 | 180 |   2
    17 | 2021-10-30 |        5 |         1 |  79 |  50 |   2
    18 | 2021-10-30 |        8 |         2 |  69 |     |   2
    19 | 2021-10-30 |       10 |         2 | 199 |     |   2
    15 | 2021-10-30 |        1 |         1 |  29 |     |   4
    16 | 2021-10-30 |        1 |         1 |   9 |  10 |   4
    15 | 2021-10-30 |        2 |         1 |  10 |     |   2
    16 | 2021-10-30 |        3 |         1 |  30 |  30 |   2
    17 | 2021-10-30 |        4 |         1 |  20 |     |   2
    18 | 2021-10-30 |        4 |         1 |  40 |     |   2
    17 | 2021-10-30 |        6 |         1 |  80 |     |   4
    18 | 2021-10-30 |        6 |         1 | 100 |     |   4
    20 | 2021-10-30 |        7 |         1 |  40 |     |   1
(21 rows)


proj1=# call leave_meeting(1, 7, '2021-10-30', 20, 21, 40);
NOTICE:  start time: 20:00
NOTICE:  Employee 40 is removed from meeting on 2021-10-30 at meeting room #1-7 from 20:00 to 21:00
NOTICE:  Booker has left meeting, booking will be deleted.
CALL
proj1=# call leave_meeting(1, 7, '2021-10-30', 20, 21, 40);
```

leave_meeting: if booker leave, delete meeting

Post Result

```
proj1=# select b.stime, b.sdate, b.room_num, b.floor_num, b.bid, b.mid,
2021-10-30';
 stime |   sdate    | room_num | floor_num | bid | mid | pax
-------+------------+----------+-----------+-----+-----+-----
     7 | 2021-10-30 |        9 |         1 |  90 |  90 |   1
     8 | 2021-10-30 |        9 |         1 |  90 |  90 |   1
    12 | 2021-10-30 |       10 |         1 |  99 |     |   2
    13 | 2021-10-30 |        8 |         2 |  90 |     |   2
    21 | 2021-10-30 |       10 |         1 |  90 | 100 |   2
    22 | 2021-10-30 |        8 |         2 | 180 | 180 |   2
    23 | 2021-10-30 |        9 |         1 | 119 |  90 |   2
    15 | 2021-10-30 |        9 |         1 |  89 |  90 |   2
    16 | 2021-10-30 |        8 |         2 |  80 | 180 |   2
    17 | 2021-10-30 |        5 |         1 |  79 |  50 |   2
    18 | 2021-10-30 |        8 |         2 |  69 |     |   2
    19 | 2021-10-30 |       10 |         2 | 199 |     |   2
    15 | 2021-10-30 |        1 |         1 |  29 |     |   4
    16 | 2021-10-30 |        1 |         1 |   9 |  10 |   4
    15 | 2021-10-30 |        2 |         1 |  10 |     |   2
    16 | 2021-10-30 |        3 |         1 |  30 |  30 |   2
    17 | 2021-10-30 |        4 |         1 |  20 |     |   2
    18 | 2021-10-30 |        4 |         1 |  40 |     |   2
    17 | 2021-10-30 |        6 |         1 |  80 |     |   4
    18 | 2021-10-30 |        6 |         1 | 100 |     |   4
(20 rows)
```

leave_meeting: if booker leave, delete meeting

```
proj1=# select b.stime, b.sdate, b.room_num, b.floor_num, b.bid, b.mid, (MeetingPax(b.room_num, b.floor
2021-10-30’;
 stime |   sdate    | room_num | floor_num | bid | mid | pax
-------+------------+----------+-----------+-----+-----+-----
     7 | 2021-10-30 |        9 |         1 |  90 |  90 |   1
     8 | 2021-10-30 |        9 |         1 |  90 |  90 |   1
    12 | 2021-10-30 |       10 |         1 |  99 |     |   2
    13 | 2021-10-30 |        8 |         2 |  90 |     |   2
    21 | 2021-10-30 |       10 |         1 |  90 | 100 |   2
    22 | 2021-10-30 |        8 |         2 | 180 | 180 |   2
    23 | 2021-10-30 |        9 |         1 | 119 |  90 |   2
    15 | 2021-10-30 |        9 |         1 |  89 |  90 |   2
    16 | 2021-10-30 |        8 |         2 |  80 | 180 |   2
    17 | 2021-10-30 |        5 |         1 |  79 |  50 |   2
    18 | 2021-10-30 |        8 |         2 |  69 |     |   2
    19 | 2021-10-30 |       10 |         2 | 199 |     |   2
    15 | 2021-10-30 |        1 |         1 |  29 |     |   4
    16 | 2021-10-30 |        1 |         1 |   9 |  10 |   4
    15 | 2021-10-30 |        2 |         1 |  10 |     |   2
    16 | 2021-10-30 |        3 |         1 |  30 |  30 |   2
    17 | 2021-10-30 |        4 |         1 |  20 |     |   2
    18 | 2021-10-30 |        4 |         1 |  40 |     |   2
    17 | 2021-10-30 |        6 |         1 |  80 |     |   4
    18 | 2021-10-30 |        6 |         1 | 100 |     |   4
(20 rows)


proj1=# call leave_meeting(1, 6, '2021-10-30', 18, 19, 100);
NOTICE:  start time: 18:00
NOTICE:  Employee 100 is removed from meeting on 2021-10-30 at meeting room #1-6 from 18:00 to 19:00
NOTICE:  Booker has left meeting, booking will be deleted.
CALL
proj1=#
```

leave_meeting: if booker leave, delete meeting

Post Result

```
proj1=# select b.stime, b.sdate, b.room_num, b.floor_num, b.bid, b.mid,
2021-10-30';
 stime |   sdate    | room_num | floor_num | bid | mid | pax
-------+------------+----------+-----------+-----+-----+-----
     7 | 2021-10-30 |        9 |         1 |  90 |  90 |   1
     8 | 2021-10-30 |        9 |         1 |  90 |  90 |   1
    12 | 2021-10-30 |       10 |         1 |  99 |     |   2
    13 | 2021-10-30 |        8 |         2 |  90 |     |   2
    21 | 2021-10-30 |       10 |         1 |  90 | 100 |   2
    22 | 2021-10-30 |        8 |         2 | 180 | 180 |   2
    23 | 2021-10-30 |        9 |         1 | 119 |  90 |   2
    15 | 2021-10-30 |        9 |         1 |  89 |  90 |   2
    16 | 2021-10-30 |        8 |         2 |  80 | 180 |   2
    17 | 2021-10-30 |        5 |         1 |  79 |  50 |   2
    18 | 2021-10-30 |        8 |         2 |  69 |     |   2
    19 | 2021-10-30 |       10 |         2 | 199 |     |   2
    15 | 2021-10-30 |        1 |         1 |  29 |     |   4
    16 | 2021-10-30 |        1 |         1 |   9 |  10 |   4
    15 | 2021-10-30 |        2 |         1 |  10 |     |   2
    16 | 2021-10-30 |        3 |         1 |  30 |  30 |   2
    17 | 2021-10-30 |        4 |         1 |  20 |     |   2
    18 | 2021-10-30 |        4 |         1 |  40 |     |   2
    17 | 2021-10-30 |        6 |         1 |  80 |     |   4
(19 rows)
```

Approve meeting

Approve_meeting

- must be manager (trigger)
- same dept as room (trigger)
- not resigned (trigger)
- note: can be having fever. no need to be same dept as booker.

Approve_meeting

Room: Floor 2, room 2

```
proj1=# select * from booksessions where room_num = 2 and floor_num = 2 and sdate = '2021-11-01';
 stime |   sdate    | room_num | floor_num | bid | mid
-------+------------+----------+-----------+-----+-----
    12 | 2021-11-01 |        2 |         2 |  49 |
    14 | 2021-11-01 |        2 |         2 |  50 |
    16 | 2021-11-01 |        2 |         2 |  50 | 120
(3 rows)
```

Approve: Invalid hours

```
proj1=# call approve_meeting(2, 2, '2021-11-01', 12, 12, 120, true);
NOTICE:  Invalid hours
CALL
proj1=# call approve_meeting(2, 2, '2021-11-01', -1, 12, 120, true);
NOTICE:  Invalid hours
CALL
proj1=# call approve_meeting(2, 2, '2021-11-01', 1, 25, 120, true);
NOTICE:  Invalid hours
CALL
proj1=#
```

Approve: invalid hours

```
proj1=# call approve_meeting(2, 2, '2021-11-01', -1, 12, 120, false);
NOTICE:  Invalid hours
CALL
proj1=# call approve_meeting(2, 2, '2021-11-01', 1, 25, 120, false);
NOTICE:  Invalid hours
CALL
proj1=# call approve_meeting(2, 2, '2021-11-01', 12, 12, 120, false);
NOTICE:  Invalid hours
CALL
proj1=#
```

Approve: must be Manager

```
proj1=# call approve_meeting(2, 2, '2021-11-01', 12, 14, 121, false);
NOTICE:  Cannot disapprove meeting at 12:00 to 13:00 because need to be manager
NOTICE:  Cannot disapprove meeting at 13:00 to 14:00 because need to be manager
CALL
proj1=# call approve_meeting(2, 2, '2021-11-01', 12, 14, 121, true);
ERROR:  Employee is not a manager! Employee cannot approve a meeting!
CONTEXT:  PL/pgSQL function checkapprovesessionconstraint() line 5 at RAISE
SQL statement "UPDATE BookSessions bs
                    SET mid = empl_id
                    WHERE bs.floor_num = floor_no
                    AND bs.room_num = room_no
                    AND bs.sdate = meeting_date
                    AND bs.stime = entry_start_hour
                    AND bs.mid IS NULL"
PL/pgSQL function approve_meeting(integer,integer,date,integer,integer,integer,boolean) line 13 at SQL statement
proj1=#
```

Approve: cannot resigned

```
proj1=# call approve_meeting(2, 2, '2021-11-01', 12, 14, 110, true);
ERROR:  Resigned employees cannot approve a meeting!
CONTEXT:  PL/pgSQL function checkapprovesessionconstraint() line 9 at RAISE
SQL statement "UPDATE BookSessions bs
                    SET mid = empl_id
                    WHERE bs.floor_num = floor_no
                    AND bs.room_num = room_no
                    AND bs.sdate = meeting_date
                    AND bs.stime = entry_start_hour
                    AND bs.mid IS NULL"
PL/pgSQL function approve_meeting(integer,integer,date,integer,integer,integer,boolean) line 13 at SQL statement
proj1=# call approve_meeting(2, 2, '2021-11-01', 12, 14, 110, false);
NOTICE:  Cannot disapprove meeting at 12:00 to 13:00 because employee cannot be resigned
NOTICE:  Cannot disapprove meeting at 13:00 to 14:00 because employee cannot be resigned
CALL
```

Approve: same department as room

```
proj1=# call approve_meeting(2, 2, '2021-11-01', 12, 14, 100, false);
NOTICE:  Cannot disapprove meeting at 12:00 to 13:00 because need to be same department as room
NOTICE:  Cannot disapprove meeting at 13:00 to 14:00 because need to be same department as room
CALL
proj1=# call approve_meeting(2, 2, '2021-11-01', 12, 14, 100, true);
ERROR:  Only manager belonging to the same department as the room can approve the meeting!
CONTEXT:  PL/pgSQL function checkapprovesessionconstraint() line 13 at RAISE
SQL statement "UPDATE BookSessions bs
                    SET mid = empl_id
                    WHERE bs.floor_num = floor_no
                    AND bs.room_num = room_no
                    AND bs.sdate = meeting_date
                    AND bs.stime = entry_start_hour
                    AND bs.mid IS NULL"
PL/pgSQL function approve_meeting(integer,integer,date,integer,integer,integer,boolean) line 13 at SQL statement
```

Approve: (ignores non existent or approved one)

```
proj1=# select * from booksessions where sdate = '2021-11-01' and room_num = 2 and floor_num = 2;
 stime |   sdate    | room_num | floor_num | bid | mid
-------+------------+----------+-----------+-----+-----
    12 | 2021-11-01 |        2 |         2 |  49 |
    14 | 2021-11-01 |        2 |         2 |  50 |
    16 | 2021-11-01 |        2 |         2 |  50 | 120
(3 rows)
```

```
proj1=# call approve_meeting(2, 2, '2021-11-01', 12, 18, 120, true);
CALL
proj1=# select * from booksessions where sdate = '2021-11-01' and room_num = 2 and floor_num = 2;
 stime |   sdate    | room_num | floor_num | bid | mid
-------+------------+----------+-----------+-----+-----
    12 | 2021-11-01 |        2 |         2 |  49 | 120
    14 | 2021-11-01 |        2 |         2 |  50 | 120
    16 | 2021-11-01 |        2 |         2 |  50 | 120
(3 rows)
```

Disapprove: (ignores non existent or [and disapprove pending or approved one if by same person)]

```
proj1=# select * from booksessions where sdate = '2021-11-02' and room_num = 2 and floor_num = 2;
 stime |   sdate    | room_num | floor_num | bid | mid
-------+------------+----------+-----------+-----+-----
    12 | 2021-11-02 |        2 |         2 |  49 |
    14 | 2021-11-02 |        2 |         2 |  50 |
    16 | 2021-11-02 |        2 |         2 |  50 | 120
(3 rows)


proj1=# call approve_meeting(2, 2, '2021-11-2', 12, 18, 120, false);
CALL
proj1=# select * from booksessions where sdate = '2021-11-02' and room_num = 2 and floor_num = 2;
 stime | sdate | room_num | floor_num | bid | mid
-------+-------+----------+-----------+-----+-----
(0 rows)
```

Disapprove: (disapprove approved one if by same person)

```
proj1=# call add_employee('testriyas', 61111111, 81111111, 62222222, 'Manager', 12);
CALL
proj1=# select * from employees where ename = 'testriyas';
 eid |   ename   |             email              | home_contact | mobile_contact | office_contact | resigned_date | did
-----+-----------+--------------------------------+--------------+----------------+----------------+---------------+-----
 205 | testriyas | testriyas_0205@company2102.com |     61111111 |       81111111 |       62222222 |               |  12
(1 row)


proj1=# select * from booksessions where sdate = '2021-11-01' and room_num = 2 and floor_num = 2;
 stime |   sdate    | room_num | floor_num | bid | mid
-------+------------+----------+-----------+-----+-----
    16 | 2021-11-01 |        2 |         2 |  50 | 120
    12 | 2021-11-01 |        2 |         2 |  49 | 120
    14 | 2021-11-01 |        2 |         2 |  50 | 120
(3 rows)


proj1=# call approve_meeting(2, 2, '2021-11-1', 12, 18, 205, false);
CALL
proj1=# select * from booksessions where sdate = '2021-11-01' and room_num = 2 and floor_num = 2;
 stime |   sdate    | room_num | floor_num | bid | mid
-------+------------+----------+-----------+-----+-----
    16 | 2021-11-01 |        2 |         2 |  50 | 120
    12 | 2021-11-01 |        2 |         2 |  49 | 120
    14 | 2021-11-01 |        2 |         2 |  50 | 120
(3 rows)
```

Approve: cannot approve past meeting

```
proj1=# select * from booksessions where sdate = '2021-10-29' and room_num = 2 and floor_num = 2;
 stime |   sdate    | room_num | floor_num | bid | mid
-------+------------+----------+-----------+-----+-----
    14 | 2021-10-29 |        2 |         2 |  50 |
    16 | 2021-10-29 |        2 |         2 |  50 | 120
(2 rows)


proj1=# call approve_meeting(2, 2, '2021-10-29', 12, 18, 120, true);
ERROR:  One cannot approve meetings in the past!
CONTEXT:  PL/pgSQL function checkapprovesessionconstraint() line 16 at RAISE
SQL statement "UPDATE BookSessions bs
                    SET mid = empl_id
                    WHERE bs.floor_num = floor_no
                    AND bs.room_num = room_no
                    AND bs.sdate = meeting_date
                    AND bs.stime = entry_start_hour
                    AND bs.mid IS NULL"
PL/pgSQL function approve_meeting(integer,integer,date,integer,integer,integer,boolean) line 13 at SQL statement
proj1=# select * from booksessions where sdate = '2021-10-29' and room_num = 2 and floor_num = 2;
 stime |   sdate    | room_num | floor_num | bid | mid
-------+------------+----------+-----------+-----+-----
    14 | 2021-10-29 |        2 |         2 |  50 |
    16 | 2021-10-29 |        2 |         2 |  50 | 120
(2 rows)
```

Change true to false and try disapprove. Should not be able to.

Declare_health & non compliance

Non_compliance

- never declare at least once
- inclusive of start date and end date
- output no of days never declare
- descending order of number of days.
- for resigned, exclude the days after they resigned

declare_health (those who have not declared)

ID	Dates never declare	Status
1	25/10, 28/10, 29/10	
127	27/10, 28/10, 29/10, 30/10	
128	28/10, 29/10, 30/10	
129	29/10, 30/10	
130	30/10	
108	25/10, 26/10, 28/10	Resigned on 28/10
109	27/10, 28/10	Resigned on 28/10
110	28/10	Resigned on 28/10

Non_compliance

NOTE: You may have other employees here depending on who you have inserted before. But from original data, these are the IDs.

```
proj1=# select * from non_compliance ('2021-10-25', '2021-10-30');
 employee_id | number_of_days
-------------+----------------
         127 |              4
         128 |              3
           1 |              3
         108 |              3
         109 |              2
         129 |              2
         130 |              1
         110 |              1
(8 rows)
```

Non_compliance

NOTE: Example if you had followed the PPT all the way

```
proj1=# select * from non_compliance ('2021-10-25', '2021-10-30');
 employee_id | number_of_days
-------------+----------------
         202 |              6
         201 |              6
         205 |              6
         203 |              6
         127 |              4
           1 |              3
         128 |              3
         108 |              3
         109 |              2
         129 |              2
         110 |              1
         130 |              1
(12 rows)
```

declare_health (those who have not declared)

ID	Dates never declare	Status
1	25/10, 28/10, 29/10	
127	27/10, 28/10, 29/10, 30/10	
128	28/10, 29/10, 30/10	
129	29/10, 30/10	
130	30/10	
108	25/10, 26/10, 28/10	Resigned on 28/10
109	27/10, 28/10	Resigned on 28/10
110	28/10	Resigned on 28/10

Non_compliance

108, 109 & 110
resigning on 28/10

```
proj1=# select * from non_compliance ('2021-10-25', '2021-10-28');
 employee_id | number_of_days
-------------+----------------
         108 |              3
           1 |              2
         127 |              2
         109 |              2
         128 |              1
         110 |              1
(6 rows)
```

declare_health (those who have not declared)

ID	Dates never declare	Status
1	25/10, 28/10, 29/10	
127	27/10, 28/10, 29/10, 30/10	
128	28/10, 29/10, 30/10	
129	29/10, 30/10	
130	30/10	
108	25/10, 26/10, 28/10	Resigned on 28/10
109	27/10, 28/10	Resigned on 28/10
110	28/10	Resigned on 28/10

Non_compliance

108, 109 & 110
resigning on 28/10

```
proj1=# select * from non_compliance ('2021-10-25', '2021-10-27');
 employee_id | number_of_days
-------------+----------------
         108 |              2
           1 |              1
         127 |              1
         109 |              1
(4 rows)
```

declare_health (those who have not declared)

ID	Dates never declare	Status
1	25/10, 28/10, 29/10	
127	27/10, 28/10, 29/10, 30/10	
128	28/10, 29/10, 30/10	
129	29/10, 30/10	
130	30/10	
108	25/10, 26/10, 28/10	Resigned on 28/10
109	27/10, 28/10	Resigned on 28/10
110	28/10	Resigned on 28/10

Non_compliance

108, 109 & 110
resigning on 28/10

```
proj1=# select * from non_compliance ('2021-10-29', '2021-10-30');
 employee_id | number_of_days
-------------+----------------
         127 |              2
         128 |              2
         129 |              2
           1 |              1
         130 |              1
(5 rows)
```

Declare_health

- If resigned, can only declare temperature for before resigned date
- Assumption: declare health today

Declare_health: today (no fever)

Command Prompt - psql -U postgres

```
proj1=# select * from healthdeclarationwfever where eid = 127 and hdate = '2021-10-30';
 hdate | temp | fever | eid
-------+------+-------+-----
(0 rows)


proj1=# call declare_health(127, '2021-10-30', 37.5);
CALL
proj1=# select * from healthdeclarationwfever where eid = 127 and hdate = '2021-10-30';
   hdate    | temp | fever | eid
------------+------+-------+-----
 2021-10-30 | 37.5 | f     | 127
(1 row)


proj1=#
```

Declare_health: past (we accept) (have fever)

```
proj1=# select * from healthdeclarationwfever where eid = 127 and hdate = '2021-10-29’;
 hdate | temp | fever | eid
-------+------+-------+-----
(0 rows)


proj1=# call declare_health(127, '2021-10-29', 37.6);
CALL
proj1=# select * from healthdeclarationwfever where eid = 127 and hdate = '2021-10-29’;
   hdate    | temp | fever | eid
------------+------+-------+-----
 2021-10-29 | 37.6 | t     | 127
(1 row)
```

Declare_health: resigned (CANNOT after resign date)

```
proj1=# select * from healthdeclarationwfever where eid = 110 and hdate = '2021-10-29';
 hdate | temp | fever | eid
-------+------+-------+-----
(0 rows)


proj1=# call declare_health(110, '2021-10-29', 37.4);
ERROR:  For resigned employee, you can declare temperature for days before/on resign date!
CONTEXT:  PL/pgSQL function tempconstraintscheck() line 5 at RAISE
SQL statement "INSERT INTO HealthDeclaration VALUES (declare_date, temp, empl_id)"
PL/pgSQL function declare_health(integer,date,numeric) line 3 at SQL statement
proj1=#
```

Declare_health: resigned

```
proj1=# select * from healthdeclarationwfever where eid = 110 and hdate = '2021-10-28';
 hdate | temp | fever | eid
-------+------+-------+-----
(0 rows)


proj1=# call declare_health(110, '2021-10-28', 37.4);
CALL
proj1=# select * from healthdeclarationwfever where eid = 110 and hdate = '2021-10-28';
   hdate    | temp | fever | eid
------------+------+-------+-----
 2021-10-28 | 37.4 | f     | 110
(1 row)
```

view_booking_report

View_booking_report

- For junior employee, return nothing
- Don't need to care for resigned employees (cuz future meetings get deleted)

view_booking_report (follows order)

```
proj1=# select * from view_booking_report('2021-10-25', 29);
 floor_number | room_number |    date    | start_hour | is_approval
--------------+-------------+------------+------------+-------------
            1 |           1 | 2021-10-26 |         15 | Pending
            1 |           1 | 2021-10-29 |         15 | Approved
            1 |           1 | 2021-10-30 |         15 | Pending
(3 rows)


proj1=# select * from view_booking_report('2021-10-25', 90);
 floor_number | room_number |    date    | start_hour | is_approval
--------------+-------------+------------+------------+-------------
            2 |           8 | 2021-10-25 |         10 | Approved
            2 |           6 | 2021-10-27 |         18 | Approved
            2 |           6 | 2021-10-27 |         21 | Pending
            2 |           6 | 2021-10-28 |         18 | Approved
            2 |           6 | 2021-10-28 |         21 | Pending
            2 |           6 | 2021-10-29 |         18 | Approved
            2 |           6 | 2021-10-29 |         21 | Pending
            1 |           9 | 2021-10-30 |          7 | Approved
            1 |           9 | 2021-10-30 |          8 | Approved
            2 |           8 | 2021-10-30 |         13 | Pending
            1 |          10 | 2021-10-30 |         21 | Approved
            2 |           8 | 2021-11-04 |         13 | Pending
            1 |          10 | 2021-11-04 |         21 | Approved
            1 |           9 | 2021-11-05 |         18 | Approved
            1 |           9 | 2021-11-05 |         19 | Approved
            1 |           9 | 2021-11-06 |          7 | Approved
            1 |           9 | 2021-11-06 |          8 | Approved
            2 |           8 | 2021-11-06 |         13 | Pending
            1 |          10 | 2021-11-06 |         21 | Approved
            2 |           8 | 2021-11-07 |         13 | Pending
            1 |          10 | 2021-11-07 |         21 | Approved
            2 |           8 | 2021-11-10 |         13 | Pending
            1 |          10 | 2021-11-10 |         21 | Approved
(23 rows)
```

view_booking_report [MANUAL COMPARE]

```
proj1=# select * from booksessions where bid = 29;
 stime |   sdate    | room_num | floor_num | bid | mid
-------+------------+----------+-----------+-----+-----
    15 | 2021-10-26 |        1 |         1 |  29 |
    15 | 2021-10-29 |        1 |         1 |  29 |  10
    15 | 2021-10-30 |        1 |         1 |  29 |
(3 rows)
```

```
proj1=# select * from booksessions where bid = 90;
 stime |   sdate    | room_num | floor_num | bid | mid
-------+------------+----------+-----------+-----+-----
     7 | 2021-10-30 |        9 |         1 |  90 |  90
     8 | 2021-10-30 |        9 |         1 |  90 |  90
    18 | 2021-11-05 |        9 |         1 |  90 |  90
    19 | 2021-11-05 |        9 |         1 |  90 |  90
     7 | 2021-11-06 |        9 |         1 |  90 |  90
     8 | 2021-11-06 |        9 |         1 |  90 |  90
    10 | 2021-10-24 |        8 |         2 |  90 | 180
    10 | 2021-10-25 |        8 |         2 |  90 | 180
    18 | 2021-10-27 |        6 |         2 |  90 | 160
    21 | 2021-10-27 |        6 |         2 |  90 |
    18 | 2021-10-28 |        6 |         2 |  90 | 160
    21 | 2021-10-28 |        6 |         2 |  90 |
    18 | 2021-10-29 |        6 |         2 |  90 | 160
    21 | 2021-10-29 |        6 |         2 |  90 |
    13 | 2021-10-30 |        8 |         2 |  90 |
    21 | 2021-10-30 |       10 |         1 |  90 | 100
    13 | 2021-11-04 |        8 |         2 |  90 |
    21 | 2021-11-04 |       10 |         1 |  90 | 100
    13 | 2021-11-06 |        8 |         2 |  90 |
    21 | 2021-11-06 |       10 |         1 |  90 | 100
    13 | 2021-11-07 |        8 |         2 |  90 |
    21 | 2021-11-07 |       10 |         1 |  90 | 100
    13 | 2021-11-10 |        8 |         2 |  90 |
    21 | 2021-11-10 |       10 |         1 |  90 | 100
(24 rows)
```

view_booking_report [PLAYING WITH DATES]

```
 floor_number | room_number |    date    | start_hour | is_approval
--------------+-------------+------------+------------+-------------
            1 |           1 | 2021-10-26 |         15 | Pending
            1 |           1 | 2021-10-29 |         15 | Approved
            1 |           1 | 2021-10-30 |         15 | Pending
(3 rows)


proj1=# select * from view_booking_report('2021-10-26', 29);
 floor_number | room_number |    date    | start_hour | is_approval
--------------+-------------+------------+------------+-------------
            1 |           1 | 2021-10-26 |         15 | Pending
            1 |           1 | 2021-10-29 |         15 | Approved
            1 |           1 | 2021-10-30 |         15 | Pending
(3 rows)


proj1=# select * from view_booking_report('2021-10-27', 29);
 floor_number | room_number |    date    | start_hour | is_approval
--------------+-------------+------------+------------+-------------
            1 |           1 | 2021-10-29 |         15 | Approved
            1 |           1 | 2021-10-30 |         15 | Pending
(2 rows)


proj1=# select * from view_booking_report('2021-10-30', 29);
 floor_number | room_number |    date    | start_hour | is_approval
--------------+-------------+------------+------------+-------------
            1 |           1 | 2021-10-30 |         15 | Pending
(1 row)


proj1=# select * from view_booking_report('2021-11-1', 29);
 floor_number | room_number | date | start_hour | is_approval
--------------+-------------+------+------------+-------------
(0 rows)
```

view_booking_report [resigned]

```
proj1=# select * from view_booking_report('2021-10-25', 30);
 floor_number | room_number |    date    | start_hour | is_approval
--------------+-------------+------------+------------+-------------
            1 |           2 | 2021-10-26 |         15 | Pending
            1 |           3 | 2021-10-29 |         16 | Approved
            1 |           3 | 2021-10-30 |         16 | Approved
(3 rows)
```

No meeting after 30/10/2021 resign date

view_future_meeting

View_future_meeting

- Only meetings that are approved.
- Don't need to care about resigned employees. Will return nothing or meetings left bef resign date.

View_future_meeting

```
proj1=# select * from view_future_meeting('2021-10-25', 29);
 floor_number | room_number | meeting_date | start_hour
--------------+-------------+--------------+------------
            1 |           1 | 2021-10-26   |         16
            1 |           1 | 2021-10-29   |         15
            1 |           3 | 2021-10-29   |         16
            1 |           1 | 2021-10-30   |         16
            1 |           1 | 2021-11-06   |         16
(5 rows)
```

```
proj1=# select * from joins where eid = 29 and sdate > '2021-10-25';
 eid | stime |   sdate    | room_num | floor_num
-----+-------+------------+----------+-----------
  29 |    15 | 2021-10-26 |        1 |         1
  29 |    16 | 2021-10-26 |        1 |         1
  29 |    15 | 2021-10-29 |        1 |         1
  29 |    16 | 2021-10-29 |        1 |         1
  29 |    15 | 2021-10-30 |        1 |         1
  29 |    16 | 2021-10-30 |        1 |         1
  29 |    16 | 2021-11-05 |        1 |         1
  29 |    16 | 2021-11-06 |        1 |         1
  29 |    16 | 2021-10-29 |        3 |         1
(9 rows)
```

```
proj1=# select * from joins j where j.eid = 29 and j.sdate > '2021-10-
um and b.sdate = j.sdate and b.stime = j.stime and b.mid IS NOT NULL);
 eid | stime |   sdate    | room_num | floor_num
-----+-------+------------+----------+-----------
  29 |    16 | 2021-10-26 |        1 |         1
  29 |    15 | 2021-10-29 |        1 |         1
  29 |    16 | 2021-10-30 |        1 |         1
  29 |    16 | 2021-11-06 |        1 |         1
  29 |    16 | 2021-10-29 |        3 |         1
(5 rows)
```

View_future_meeting (play with numbers)

```
proj1=# select * from view_future_meeting('2021-10-25', 89);
 floor_number | room_number | meeting_date | start_hour
--------------+-------------+--------------+------------
            1 |           9 | 2021-10-27   |          7
            1 |           9 | 2021-10-28   |          7
            1 |           9 | 2021-10-28   |          8
            1 |           9 | 2021-10-30   |         15
            1 |           2 | 2021-11-03   |         10
            1 |           2 | 2021-11-03   |         11
(6 rows)

proj1=# select * from view_future_meeting('2021-10-28', 89);
 floor_number | room_number | meeting_date | start_hour
--------------+-------------+--------------+------------
            1 |           9 | 2021-10-28   |          7
            1 |           9 | 2021-10-28   |          8
            1 |           9 | 2021-10-30   |         15
            1 |           2 | 2021-11-03   |         10
            1 |           2 | 2021-11-03   |         11
(5 rows)

proj1=# select * from view_future_meeting('2021-11-03', 89);
 floor_number | room_number | meeting_date | start_hour
--------------+-------------+--------------+------------
            1 |           2 | 2021-11-03   |         10
            1 |           2 | 2021-11-03   |         11
(2 rows)
```

View_future_meeting (resigned)

```
proj1=# select * from view_future_meeting('2021-10-25’, 30);
 floor_number | room_number | meeting_date | start_hour
--------------+-------------+--------------+------------
            1 |           2 | 2021-10-26   |         16
            1 |           2 | 2021-10-29   |         15
            1 |           3 | 2021-10-29   |         16
            1 |           3 | 2021-10-30   |         16
(4 rows)
```

view_manager_report

View_manager_report

- check whether manager
- output booked but not approved rooms
- booked rooms from date onwards
- room must be same dept as manager
- ascending order of date and start hour.
- resigned employees, this will return nothing, which we can assume is ok.

view_manager_report: not manager

```
proj1=# select * from view_manager_report('2021-10-25’, 1);
 floor_numbner | room_number | meeting_date | start_hour | employee_id
---------------+-------------+--------------+------------+-------------
(0 rows)


proj1=# select * from view_manager_report('2021-10-25’, 89);
 floor_numbner | room_number | meeting_date | start_hour | employee_id
---------------+-------------+--------------+------------+-------------
(0 rows)


proj1=# select * from view_manager_report('2021-10-25’, 69);
 floor_numbner | room_number | meeting_date | start_hour | employee_id
---------------+-------------+--------------+------------+-------------
(0 rows)
```

view_manager_report: manager

```
 floor_numbner | room_number | meeting_date | start_hour | employee_id
---------------+-------------+--------------+------------+-------------
             1 |           1 | 2021-10-26   |         15 |          29
             1 |           1 | 2021-10-29   |         16 |          19
             1 |           1 | 2021-10-30   |         15 |          29
             1 |           1 | 2021-11-03   |         14 |           9
             1 |           1 | 2021-11-03   |         15 |           9
             1 |           1 | 2021-11-05   |         16 |          49
(6 rows)

proj1=# select * from view_manager_report('2021-10-25’, 20);
 floor_numbner | room_number | meeting_date | start_hour | employee_id
---------------+-------------+--------------+------------+-------------
             1 |           2 | 2021-10-26   |         15 |          30
             1 |           2 | 2021-10-30   |         15 |          10
             1 |           2 | 2021-11-06   |         17 |          20
(3 rows)

proj1=# select * from view_manager_report('2021-10-25’, 180);
 floor_numbner | room_number | meeting_date | start_hour | employee_id
---------------+-------------+--------------+------------+-------------
             2 |           8 | 2021-10-30   |         13 |          90
             2 |           8 | 2021-10-30   |         18 |          69
             2 |           8 | 2021-11-04   |         13 |          90
             2 |           8 | 2021-11-04   |         18 |          69
             2 |           8 | 2021-11-06   |         13 |          90
             2 |           8 | 2021-11-06   |         18 |          69
             2 |           8 | 2021-11-07   |         13 |          90
             2 |           8 | 2021-11-07   |         18 |          69
             2 |           8 | 2021-11-10   |         13 |          90
             2 |           8 | 2021-11-10   |         18 |          69
(10 rows)
```

view_manager_report: manager [manual check]

```
proj1=# select * from booksessions where mid IS NULL and room_num = 1 and floor_num = 1;
 stime |   sdate    | room_num | floor_num | bid | mid
-------+------------+----------+-----------+-----+-----
    14 | 2021-11-03 |        1 |         1 |   9 |
    15 | 2021-11-03 |        1 |         1 |   9 |
    15 | 2021-10-26 |        1 |         1 |  29 |
    16 | 2021-10-29 |        1 |         1 |  19 |
    15 | 2021-10-30 |        1 |         1 |  29 |
    16 | 2021-11-05 |        1 |         1 |  49 |
(6 rows)


proj1=# select * from booksessions where mid IS NULL and room_num = 2 and floor_num = 1;
 stime |   sdate    | room_num | floor_num | bid | mid
-------+------------+----------+-----------+-----+-----
    15 | 2021-10-26 |        2 |         1 |  30 |
    15 | 2021-10-30 |        2 |         1 |  10 |
    17 | 2021-11-06 |        2 |         1 |  20 |
(3 rows)


proj1=# select * from booksessions where mid IS NULL and room_num = 8 and floor_num = 2;
 stime |   sdate    | room_num | floor_num | bid | mid
-------+------------+----------+-----------+-----+-----
    13 | 2021-10-30 |        8 |         2 |  90 |
    13 | 2021-11-04 |        8 |         2 |  90 |
    13 | 2021-11-06 |        8 |         2 |  90 |
    13 | 2021-11-07 |        8 |         2 |  90 |
    13 | 2021-11-10 |        8 |         2 |  90 |
    18 | 2021-10-30 |        8 |         2 |  69 |
    18 | 2021-11-04 |        8 |         2 |  69 |
    18 | 2021-11-06 |        8 |         2 |  69 |
    18 | 2021-11-07 |        8 |         2 |  69 |
    18 | 2021-11-10 |        8 |         2 |  69 |
(10 rows)
```

view_manager_report:resigned

```
proj1=# select * from view_manager_report('2021-10-25’, 30);
 floor_numbner | room_number | meeting_date | start_hour | employee_id
---------------+-------------+--------------+------------+-------------
(0 rows)


proj1=# select * from view_manager_report('2021-10-25’, 110);
 floor_numbner | room_number | meeting_date | start_hour | employee_id
---------------+-------------+--------------+------------+-------------
(0 rows)
```

contact_tracing

Contact_tracing

- No fever: don’t do anything
- Never declare: don’t do anything
- This function has been tweaked to take in the date as well for simplicity. So, it takes in an employee ID and the date and checks whether the employee has fever on the provided date and does the rest that is required.
- If an employee has not declared temperature on the provided date, we cannot ascertain whether the employee has fever or not. So, in that case, we simply raise a notice.
- We assume that employees would usually declare their temperature at the start of the day, before they attend any meetings on that day. As such, we have defined close contacts to be all employees in the same *approved* meeting room from the past 3 days as the employee. (*i.e.,* from day D-3 [inclusive] to day D [exclusive]).
- So, the current date is actually considered to be part of future meetings (again based on the assumption that employees would declare or be forced to declare their temperature at the start of the day before going for meetings).
- As such, future meetings in the next 7 days of close contacts include the current date (today) and the next 7 days from today (*i.e.,* from day D [inclusive] to day D+7 [inclusive]). Close contacts are removed from these meetings and if these meetings were booked by close contacts, the whole meeting is removed.

contact_tracing

```
proj1=# select * from healthdeclarationwfever where fever = true;
   hdate     | temp | fever | eid
-------------+------+-------+-----
 2021-10-30 | 38.9 | t     |  90
 2021-10-29 | 37.6 | t     | 127
(2 rows)
```

Contact_tracing: Meetings empl 90 join/ book/ approve before 27/10/2021

```
proj1=# select * from joins where eid = 90 and sdate < '2021-10-27';
 eid | stime |   sdate    | room_num | floor_num
-----+-------+------------+----------+-----------
  90 |    10 | 2021-10-24 |        8 |         2
  90 |    11 | 2021-10-24 |        7 |         1
  90 |    10 | 2021-10-25 |        8 |         2
  90 |    10 | 2021-10-26 |        6 |         1
(4 rows)


proj1=# select * from booksessions where mid = 90 and sdate < '2021-10-27';
 stime |   sdate    | room_num | floor_num | bid | mid
-------+------------+----------+-----------+-----+-----
    11 | 2021-10-25 |        9 |         1 | 100 |  90
    11 | 2021-10-26 |        9 |         1 | 119 |  90
(2 rows)


proj1=# select * from booksessions where bid = 90 and sdate < '2021-10-27';
 stime |   sdate    | room_num | floor_num | bid | mid
-------+------------+----------+-----------+-----+-----
    10 | 2021-10-24 |        8 |         2 |  90 | 180
    10 | 2021-10-25 |        8 |         2 |  90 | 180
(2 rows)
```

Close contact before 27/10

date	hour	Other employees
24/10/2021	10-11	176, 187
25/10/2021	10-11	162, 164
24/10/2021	11-12	70, 187
26/10/2021	10-11	80, 91

Close contact between 27/10 and 29/10

date	hour	Other employees	
27/10/2021	7 – 8	85, 86, 87, 88, 89	
28/10/2021	7 – 8	89	
28/10/2021	8 - 9	89	
27/10/2021	18-19	50	90 booked [approved]
27/10/2021	19-20	53, 199	90 only joined [approved]
27/10/2021	20-21	56, 99	90 approved [approved]
27/10/2021	21-22	61	90 booked [not approved]
27/10/2021	22-23	62, 189	90 only joined [not approved]
28/10/2021	18-19	51	90 booked [approved]
28/10/2021	19-20	54, 199	90 only joined [approved]
28/10/2021	20-21	57, 99	90 approved [approved]
28/10/2021	21-22	63	90 booked [not approved]
28/10/2021	22-23	64, 189	90 only joined [not approved]
29/10/2021	18-19	52	90 booked [approved]
29/10/2021	19-20	55, 199	90 only joined [approved]
29/10/2021	20-21	58, 99	90 approved [approved]
29/10/2021	21-22	65	90 booked [not approved]
29/10/2021	22-23	66, 189	90 only joined

CLOSE CONTACT RESULT

```
proj1=# select * from contact_tracing(90, '2021-10-29');
NOTICE:  Employee has no fever on that day
 employee_id
-------------
(0 rows)


proj1=# select * from contact_tracing(90, '2021-10-31');
NOTICE:  Employee has no health declaration entry on that day
 employee_id
-------------
(0 rows)
```

CLOSE CONTACT RESULT

```
proj1=# select * from contact_tracing(90, '2021-10-30');
 employee_id
-------------
          89
          87
          54
          88
          51
          50
         199
          55
          86
          85
          52
          53
(12 rows)
```

Past meetings for 90 (before contact tracing) incl book and approve

```
proj1=# select * from booksessions where sdate < '2021-10-30' and (mid = 90 or bid = 90);
 stime |   sdate    | room_num | floor_num | bid | mid
-------+------------+----------+-----------+-----+-----
     7 | 2021-10-27 |        9 |         1 |  89 |  90
     7 | 2021-10-28 |        9 |         1 |  89 |  90
     8 | 2021-10-28 |        9 |         1 |  89 |  90
    10 | 2021-10-24 |        8 |         2 |  90 | 180
    10 | 2021-10-25 |        8 |         2 |  90 | 180
    11 | 2021-10-25 |        9 |         1 | 100 |  90
    11 | 2021-10-26 |        9 |         1 | 119 |  90
    18 | 2021-10-27 |        6 |         2 |  90 | 160
    20 | 2021-10-27 |        9 |         1 |  99 |  90
    21 | 2021-10-27 |        6 |         2 |  90 |
    18 | 2021-10-28 |        6 |         2 |  90 | 160
    20 | 2021-10-28 |        9 |         1 |  99 |  90
    21 | 2021-10-28 |        6 |         2 |  90 |
    18 | 2021-10-29 |        6 |         2 |  90 | 160
    20 | 2021-10-29 |        9 |         1 |  99 |  90
    21 | 2021-10-29 |        6 |         2 |  90 |
(16 rows)
```

Past meetings for 90 (after contact tracing) incl book and approve

NO CHANGE

```
proj1=# select * from booksessions where sdate < '2021-10-30' an
 stime |    sdate     | room_num | floor_num | bid | mid
-------+--------------+----------+-----------+-----+-----
     7 | 2021-10-27 |        9 |         1 |  89 |  90
     7 | 2021-10-28 |        9 |         1 |  89 |  90
     8 | 2021-10-28 |        9 |         1 |  89 |  90
    10 | 2021-10-24 |        8 |         2 |  90 | 180
    10 | 2021-10-25 |        8 |         2 |  90 | 180
    11 | 2021-10-25 |        9 |         1 | 100 |  90
    11 | 2021-10-26 |        9 |         1 | 119 |  90
    18 | 2021-10-27 |        6 |         2 |  90 | 160
    20 | 2021-10-27 |        9 |         1 |  99 |  90
    21 | 2021-10-27 |        6 |         2 |  90 |
    18 | 2021-10-28 |        6 |         2 |  90 | 160
    20 | 2021-10-28 |        9 |         1 |  99 |  90
    21 | 2021-10-28 |        6 |         2 |  90 |
    18 | 2021-10-29 |        6 |         2 |  90 | 160
    20 | 2021-10-29 |        9 |         1 |  99 |  90
    21 | 2021-10-29 |        6 |         2 |  90 |
(16 rows)
```

Past meetings for 90 to join (before contact tracing)

```
proj1=# select * from joins where eid = 90 and sdate < '2021-10-30';
 eid | stime |   sdate    | room_num | floor_num
-----+-------+------------+----------+-----------
  90 |     7 | 2021-10-27 |        9 |         1
  90 |     7 | 2021-10-28 |        9 |         1
  90 |     8 | 2021-10-28 |        9 |         1
  90 |    10 | 2021-10-24 |        8 |         2
  90 |    11 | 2021-10-24 |        7 |         1
  90 |    10 | 2021-10-25 |        8 |         2
  90 |    10 | 2021-10-26 |        6 |         1
  90 |    18 | 2021-10-27 |        6 |         2
  90 |    19 | 2021-10-27 |        6 |         2
  90 |    21 | 2021-10-27 |        6 |         2
  90 |    22 | 2021-10-27 |        6 |         2
  90 |    18 | 2021-10-28 |        6 |         2
  90 |    19 | 2021-10-28 |        6 |         2
  90 |    21 | 2021-10-28 |        6 |         2
  90 |    22 | 2021-10-28 |        6 |         2
  90 |    18 | 2021-10-29 |        6 |         2
  90 |    19 | 2021-10-29 |        6 |         2
  90 |    21 | 2021-10-29 |        6 |         2
  90 |    22 | 2021-10-29 |        6 |         2
(19 rows)
```

Past meetings for 90 to join (before contact tracing)

NO CHANGE

```
proj1=# select * from joins where eid = 90 and sdate
 eid | stime |   sdate    | room_num | floor_num
-----+-------+------------+----------+-----------
  90 |     7 | 2021-10-27 |        9 |         1
  90 |     7 | 2021-10-28 |        9 |         1
  90 |     8 | 2021-10-28 |        9 |         1
  90 |    10 | 2021-10-24 |        8 |         2
  90 |    11 | 2021-10-24 |        7 |         1
  90 |    10 | 2021-10-25 |        8 |         2
  90 |    10 | 2021-10-26 |        6 |         1
  90 |    18 | 2021-10-27 |        6 |         2
  90 |    19 | 2021-10-27 |        6 |         2
  90 |    21 | 2021-10-27 |        6 |         2
  90 |    22 | 2021-10-27 |        6 |         2
  90 |    18 | 2021-10-28 |        6 |         2
  90 |    19 | 2021-10-28 |        6 |         2
  90 |    21 | 2021-10-28 |        6 |         2
  90 |    22 | 2021-10-28 |        6 |         2
  90 |    18 | 2021-10-29 |        6 |         2
  90 |    19 | 2021-10-29 |        6 |         2
  90 |    21 | 2021-10-29 |        6 |         2
  90 |    22 | 2021-10-29 |        6 |         2
(19 rows)
```

Past meetings close contacts need to join [BEFORE CONTACT TRACE]

```
proj1=# select * from joins where sdate < '2021-10-30'
 eid | stime |   sdate    | room_num | floor_num
-----+-------+------------+----------+-----------
  85 |     7 | 2021-10-27 |        9 |         1
  86 |     7 | 2021-10-27 |        9 |         1
  87 |     7 | 2021-10-27 |        9 |         1
  88 |     7 | 2021-10-27 |        9 |         1
  89 |     7 | 2021-10-27 |        9 |         1
  89 |     7 | 2021-10-28 |        9 |         1
  89 |     8 | 2021-10-28 |        9 |         1
  50 |    18 | 2021-10-27 |        6 |         2
 199 |    19 | 2021-10-27 |        6 |         2
  53 |    19 | 2021-10-27 |        6 |         2
  51 |    18 | 2021-10-28 |        6 |         2
 199 |    19 | 2021-10-28 |        6 |         2
  54 |    19 | 2021-10-28 |        6 |         2
  52 |    18 | 2021-10-29 |        6 |         2
 199 |    19 | 2021-10-29 |        6 |         2
  55 |    19 | 2021-10-29 |        6 |         2
  52 |    14 | 2021-10-29 |        2 |         2
  50 |    14 | 2021-10-29 |        2 |         2
  52 |    16 | 2021-10-29 |        2 |         2
  50 |    16 | 2021-10-29 |        2 |         2
(20 rows)
```

Past meetings close contacts need to join [AFTER CONTACT TRACE]

NO CHANGE

```
proj1=# select * from joins where sdate < '2021-10-30' a
 eid | stime |   sdate    | room_num | floor_num
-----+-------+------------+----------+-----------
  85 |     7 | 2021-10-27 |        9 |         1
  86 |     7 | 2021-10-27 |        9 |         1
  87 |     7 | 2021-10-27 |        9 |         1
  88 |     7 | 2021-10-27 |        9 |         1
  89 |     7 | 2021-10-27 |        9 |         1
  89 |     7 | 2021-10-28 |        9 |         1
  89 |     8 | 2021-10-28 |        9 |         1
  50 |    18 | 2021-10-27 |        6 |         2
 199 |    19 | 2021-10-27 |        6 |         2
  53 |    19 | 2021-10-27 |        6 |         2
  51 |    18 | 2021-10-28 |        6 |         2
 199 |    19 | 2021-10-28 |        6 |         2
  54 |    19 | 2021-10-28 |        6 |         2
  52 |    18 | 2021-10-29 |        6 |         2
 199 |    19 | 2021-10-29 |        6 |         2
  55 |    19 | 2021-10-29 |        6 |         2
  52 |    14 | 2021-10-29 |        2 |         2
  50 |    14 | 2021-10-29 |        2 |         2
  52 |    16 | 2021-10-29 |        2 |         2
  50 |    16 | 2021-10-29 |        2 |         2
(20 rows)
```

Past meetings close contacts booked or approve [BEFORE CONTACT TRACE]

```
proj1=# select * from booksessions where sdate < '2021-10-30' a
8, 89, 199));
 stime |   sdate    | room_num | floor_num | bid | mid
-------+------------+----------+-----------+-----+-----
     7 | 2021-10-27 |        9 |         1 |  89 |  90
     7 | 2021-10-28 |        9 |         1 |  89 |  90
     8 | 2021-10-28 |        9 |         1 |  89 |  90
    19 | 2021-10-27 |        6 |         2 | 199 | 160
    19 | 2021-10-28 |        6 |         2 | 199 | 160
    19 | 2021-10-29 |        6 |         2 | 199 | 160
    14 | 2021-10-29 |        2 |         2 |  50 |
    16 | 2021-10-29 |        2 |         2 |  50 | 120
(8 rows)
```

Past meetings close contacts booked or approve [AFTER CONTACT TRACE]

```
proj1=# select * from booksessions where sdate < '2021-10-30'
8, 89, 199));
 stime |   sdate    | room_num | floor_num | bid | mid
-------+------------+----------+-----------+-----+-----
     7 | 2021-10-27 |        9 |         1 |  89 |  90
     7 | 2021-10-28 |        9 |         1 |  89 |  90
     8 | 2021-10-28 |        9 |         1 |  89 |  90
    19 | 2021-10-27 |        6 |         2 | 199 | 160
    19 | 2021-10-28 |        6 |         2 | 199 | 160
    19 | 2021-10-29 |        6 |         2 | 199 | 160
    14 | 2021-10-29 |        2 |         2 |  50 |
    16 | 2021-10-29 |        2 |         2 |  50 | 120
(8 rows)
```

NO CHANGE

Future meetings for 90 (before contact tracing) incl book and approve

```
proj1=# select * from booksessions where sdate >= '2021-10-30' and (mid = 90 or bid = 90);
 stime |   sdate    | room_num | floor_num | bid | mid
-------+------------+----------+-----------+-----+-----
     7 | 2021-10-30 |        9 |         1 |  90 |  90
     8 | 2021-10-30 |        9 |         1 |  90 |  90
    18 | 2021-11-05 |        9 |         1 |  90 |  90
    19 | 2021-11-05 |        9 |         1 |  90 |  90
     7 | 2021-11-06 |        9 |         1 |  90 |  90
     8 | 2021-11-06 |        9 |         1 |  90 |  90
    13 | 2021-10-30 |        8 |         2 |  90 |
    21 | 2021-10-30 |       10 |         1 |  90 | 100
    23 | 2021-10-30 |        9 |         1 | 119 |  90
    13 | 2021-11-04 |        8 |         2 |  90 |
    21 | 2021-11-04 |       10 |         1 |  90 | 100
    23 | 2021-11-04 |        9 |         1 | 119 |  90
    13 | 2021-11-06 |        8 |         2 |  90 |
    21 | 2021-11-06 |       10 |         1 |  90 | 100
    23 | 2021-11-06 |        9 |         1 | 119 |  90
    13 | 2021-11-07 |        8 |         2 |  90 |
    21 | 2021-11-07 |       10 |         1 |  90 | 100
    23 | 2021-11-07 |        9 |         1 | 119 |  90
    13 | 2021-11-10 |        8 |         2 |  90 |
    21 | 2021-11-10 |       10 |         1 |  90 | 100
    23 | 2021-11-10 |        9 |         1 | 119 |  90
    15 | 2021-10-30 |        9 |         1 |  89 |  90
    15 | 2021-11-04 |        9 |         1 |  50 |  90
    15 | 2021-11-06 |        9 |         1 | 199 |  90
    15 | 2021-11-07 |        9 |         1 |  50 |  90
    15 | 2021-11-10 |        9 |         1 | 199 |  90
(26 rows)
```

Future meetings for 90 (after contact tracing)

```
proj1=# select * from booksessions where sdate >= '2021-10-30' and (mid = 90 or bid = 90);
 stime |   sdate    | room_num | floor_num | bid | mid
-------+------------+----------+-----------+-----+-----
    23 | 2021-10-30 |        9 |         1 | 119 |  90
    23 | 2021-11-04 |        9 |         1 | 119 |  90
    23 | 2021-11-06 |        9 |         1 | 119 |  90
    23 | 2021-11-07 |        9 |         1 | 119 |  90
    23 | 2021-11-10 |        9 |         1 | 119 |  90
    15 | 2021-11-07 |        9 |         1 |  50 |  90
    15 | 2021-11-10 |        9 |         1 | 199 |  90
(7 rows)
```

ONLY THOSE APPROVE REMAIN

Future meetings for 90 need to join (before contact tracing)

```
proj1=# select * from joins where eid = 90 and sdate >= '2021-10-30';
 eid | stime |   sdate    | room_num | floor_num
-----+-------+------------+----------+-----------
  90 |     7 | 2021-10-30 |        9 |         1
  90 |     8 | 2021-10-30 |        9 |         1
  90 |    18 | 2021-11-05 |        9 |         1
  90 |    19 | 2021-11-05 |        9 |         1
  90 |     7 | 2021-11-06 |        9 |         1
  90 |     8 | 2021-11-06 |        9 |         1
  90 |     7 | 2021-11-10 |        9 |         1
  90 |    12 | 2021-10-30 |       10 |         1
  90 |    13 | 2021-10-30 |        8 |         2
  90 |    21 | 2021-10-30 |       10 |         1
  90 |    22 | 2021-10-30 |        8 |         2
  90 |    12 | 2021-11-04 |       10 |         1
  90 |    13 | 2021-11-04 |        8 |         2
  90 |    21 | 2021-11-04 |       10 |         1
  90 |    22 | 2021-11-04 |        8 |         2
  90 |    12 | 2021-11-06 |       10 |         1
  90 |    13 | 2021-11-06 |        8 |         2
  90 |    21 | 2021-11-06 |       10 |         1
  90 |    22 | 2021-11-06 |        8 |         2
  90 |    12 | 2021-11-07 |       10 |         1
  90 |    13 | 2021-11-07 |        8 |         2
  90 |    21 | 2021-11-07 |       10 |         1
  90 |    22 | 2021-11-07 |        8 |         2
  90 |    12 | 2021-11-10 |       10 |         1
  90 |    13 | 2021-11-10 |        8 |         2
  90 |    21 | 2021-11-10 |       10 |         1
  90 |    22 | 2021-11-10 |        8 |         2
(27 rows)
```

Future meetings for 90 need to join (after contact tracing)

```
proj1=# select * from joins where eid = 90 and sdate >= '2021-10-30';
 eid | stime | sdate | room_num | floor_num
-----+-------+-------+----------+-----------
(0 rows)
```

ALL THE FUTURE JOIN ARE GONE

Future meetings for close contacts need to join in 7 days (before contact tracing)

```
proj1=# select * from joins where sdate >= '2021-10-30' and
 eid | stime |   sdate    | room_num | floor_num
-----+-------+------------+----------+-----------
  89 |    10 | 2021-11-03 |        2 |         1
  89 |    11 | 2021-11-03 |        2 |         1
  89 |    15 | 2021-10-30 |        9 |         1
  51 |    16 | 2021-10-30 |        8 |         2
  52 |    18 | 2021-10-30 |        8 |         2
 199 |    19 | 2021-10-30 |       10 |         2
  50 |    15 | 2021-11-04 |        9 |         1
  52 |    15 | 2021-11-04 |        9 |         1
  50 |    16 | 2021-11-04 |        8 |         2
  53 |    16 | 2021-11-04 |        8 |         2
  50 |    18 | 2021-11-04 |        8 |         2
  53 |    18 | 2021-11-04 |        8 |         2
  50 |    19 | 2021-11-04 |       10 |         2
  52 |    19 | 2021-11-04 |       10 |         2
 199 |    15 | 2021-11-06 |        9 |         1
  54 |    16 | 2021-11-06 |        8 |         2
  55 |    18 | 2021-11-06 |        8 |         2
  89 |    19 | 2021-11-06 |       10 |         2
  52 |    12 | 2021-11-01 |        2 |         2
  50 |    12 | 2021-11-01 |        2 |         2
  52 |    14 | 2021-11-01 |        2 |         2
  50 |    14 | 2021-11-01 |        2 |         2
  52 |    16 | 2021-11-01 |        2 |         2
  50 |    16 | 2021-11-01 |        2 |         2
(24 rows)
```

Future meetings for close contacts need to join in 7 days (before contact tracing)

```
proj1=# select * from joins where sdate >= '2021-10-30'
 eid | stime | sdate | room_num | floor_num
-----+-------+-------+----------+-----------
(0 rows)
```

ALL THE FUTURE JOIN FOR TODAY AND NEXT 7 DAYS ARE GONE

Future meetings for close contacts have booked/approved in 7 days (before contact tracing)

```
proj1=# select * from booksessions where sdate >= '2021-10-3
, 53, 54, 55, 85, 86, 87, 88, 89, 199));
 stime |   sdate    | room_num | floor_num | bid | mid
-------+------------+----------+-----------+-----+-----
    15 | 2021-10-30 |        9 |         1 |  89 |  90
    17 | 2021-10-30 |        5 |         1 |  79 |  50
    19 | 2021-10-30 |       10 |         2 | 199 |
    15 | 2021-11-04 |        9 |         1 |  50 |  90
    17 | 2021-11-04 |        5 |         1 |  79 |  50
    19 | 2021-11-04 |       10 |         2 |  50 |
    15 | 2021-11-06 |        9 |         1 | 199 |  90
    17 | 2021-11-06 |        5 |         1 |  79 |  50
    19 | 2021-11-06 |       10 |         2 |  89 |
    16 | 2021-11-01 |        2 |         2 |  50 | 120
    14 | 2021-11-01 |        2 |         2 |  50 | 120
(11 rows)
```

Future meetings for close contacts have booked/approved in 7 days (after contact tracing)

```
proj1=# select * from booksessions where sdate >= '2021-10-30' an
, 53, 54, 55, 85, 86, 87, 88, 89, 199));
 stime |    sdate    | room_num | floor_num | bid | mid
-------+-------------+----------+-----------+-----+-----
    17 | 2021-10-30 |        5 |         1 |  79 |  50
    17 | 2021-11-04 |        5 |         1 |  79 |  50
    17 | 2021-11-06 |        5 |         1 |  79 |  50
(3 rows)
```

ONLY THOSE APPROVE FOR TODAY AND NEXT 7 DAYS REMAIN

AFTER 7 DAYS

Future meetings for close contacts need to join after 7 days (before contact tracing)

```
proj1=# select * from joins where sdate > '2021-11-06'
 eid | stime |   sdate    | room_num | floor_num
-----+-------+------------+----------+-----------
 199 |     9 | 2021-11-09 |       10 |         2
  85 |     7 | 2021-11-10 |        9 |         1
  86 |     7 | 2021-11-10 |        9 |         1
  87 |     7 | 2021-11-10 |        9 |         1
  88 |     7 | 2021-11-10 |        9 |         1
  89 |     7 | 2021-11-10 |        9 |         1
  50 |    15 | 2021-11-07 |        9 |         1
  52 |    15 | 2021-11-07 |        9 |         1
  50 |    16 | 2021-11-07 |        8 |         2
  53 |    16 | 2021-11-07 |        8 |         2
  52 |    17 | 2021-11-07 |        5 |         1
  50 |    18 | 2021-11-07 |        8 |         2
  53 |    18 | 2021-11-07 |        8 |         2
  50 |    19 | 2021-11-07 |       10 |         2
  52 |    19 | 2021-11-07 |       10 |         2
 199 |    15 | 2021-11-10 |        9 |         1
  54 |    16 | 2021-11-10 |        8 |         2
  55 |    18 | 2021-11-10 |        8 |         2
  89 |    19 | 2021-11-10 |       10 |         2
(19 rows)
```

Future meetings for close contacts need to join after 7 days (after contact tracing)

```
proj1=# select * from joins where sdate > '2021-11-06' an
 eid | stime |   sdate    | room_num | floor_num
-----+-------+------------+----------+-----------
 199 |     9 | 2021-11-09 |       10 |         2
  85 |     7 | 2021-11-10 |        9 |         1
  86 |     7 | 2021-11-10 |        9 |         1
  87 |     7 | 2021-11-10 |        9 |         1
  88 |     7 | 2021-11-10 |        9 |         1
  89 |     7 | 2021-11-10 |        9 |         1
  50 |    15 | 2021-11-07 |        9 |         1
  52 |    15 | 2021-11-07 |        9 |         1
  50 |    16 | 2021-11-07 |        8 |         2
  53 |    16 | 2021-11-07 |        8 |         2
  52 |    17 | 2021-11-07 |        5 |         1
  50 |    18 | 2021-11-07 |        8 |         2
  53 |    18 | 2021-11-07 |        8 |         2
  50 |    19 | 2021-11-07 |       10 |         2
  52 |    19 | 2021-11-07 |       10 |         2
 199 |    15 | 2021-11-10 |        9 |         1
  54 |    16 | 2021-11-10 |        8 |         2
  55 |    18 | 2021-11-10 |        8 |         2
  89 |    19 | 2021-11-10 |       10 |         2
(19 rows)
```

NO CHANGE

Future meetings for close contacts have booked/approved after 7 days (before contact tracing)

```
proj1=# select * from booksessions where sdate > '2021-11-
8, 89, 199));
 stime |   sdate    | room_num | floor_num | bid | mid
-------+------------+----------+-----------+-----+-----
     9 | 2021-11-09 |       10 |         2 | 199 |
     7 | 2021-11-10 |        9 |         1 |  89 |
    15 | 2021-11-07 |        9 |         1 |  50 |  90
    17 | 2021-11-07 |        5 |         1 |  79 |  50
    19 | 2021-11-07 |       10 |         2 |  50 |
    15 | 2021-11-10 |        9 |         1 | 199 |  90
    17 | 2021-11-10 |        5 |         1 |  79 |  50
    19 | 2021-11-10 |       10 |         2 |  89 |
(8 rows)
```

Future meetings for close contacts have booked/approved after 7 days (after contact tracing)

```
proj1=# select * from booksessions where sdate > '2021-11-06' and (m
8, 89, 199));
 stime |    sdate    | room_num | floor_num | bid | mid
-------+-------------+----------+-----------+-----+-----
     9 | 2021-11-09 |       10 |         2 | 199 |
     7 | 2021-11-10 |        9 |         1 |  89 |
    15 | 2021-11-07 |        9 |         1 |  50 |  90
    17 | 2021-11-07 |        5 |         1 |  79 |  50
    19 | 2021-11-07 |       10 |         2 |  50 |
    15 | 2021-11-10 |        9 |         1 | 199 |  90
    17 | 2021-11-10 |        5 |         1 |  79 |  50
    19 | 2021-11-10 |       10 |         2 |  89 |
(8 rows)
```

NO CHANGE

ADDITIONAL NOTES

- Database consistency: Everyone joined meetings at 26/10/2021
- Script to check whether booker is in joins
  - select b.room_num, b.floor_num, b.sdate, b.stime from booksessions b where b.bid NOT IN (SELECT j.eid from joins j where b.room_num = j.room_num and b.floor_num = j.floor_num and b.sdate = j.sdate and b.stime = j.stime);
- Script to check valid approvers
  - select b.room_num from booksessions b where b.mid IS NOT NULL and NOT EXISTS (SELECT * FROM SameDeptAsRoom(b.room_num, b.floor_num, b.mid));

Functions	Rooms used (floor, room)
Change capacity	1, 1
Remove employee	1, 2 & 1, 3
Book room (1)	1, 6 & 1, 7
Unbook room (1)	1, 6 & 1, 4

Resigned employee