Question 2 [5 Marks]

A relational schema for a train reservation database is given below.
Passenger (pid, pname, age)
Reservation (pid, class, tid)

Table: Passenger

```
pid   pname   age
-----------------
 0    Sachin   65
 1    Rahul    66
 2    Sourav   67
 3    Anil     69
```

Table : Reservation

```
pid  class  tid
---------------
 0    AC   8200
```

```
1    AC   8201

2    SC   8201

5    AC   8203

1    SC   8204

3    AC   8202
```

What pids are returned by the following SQL query for the above instance of the tables?

```
SLECT pid

FROM Reservation ,

WHERE class ‘AC’ AND

    EXISTS (SELECT *

       FROM Passenger

       WHERE age > 65 AND

       Passenger. pid = Reservation.pid)
```

A 1, 0

B 1, 2

✓ 1, 3

D 1, 5

Explanation

When a subquery uses values from outer query, the subquery is called correlated subquery. The correlated subquery is evaluated once for each row processed by the outer query.

The outer query selects 4 entries (with pids as 0, 1, 5, 3) from Reservation table. Out of these selected entries, the subquery returns Non-Null values only for 1 and 3.