1. Suppose a new table called CustomerBill has been added to the Library database. The create table statement for the table is shown below.

create table CustomerBill(billNum serial primary key, amount money, billDate date, cid int not null, foreign key(cid) references Customer(cid))

Write a stored procedure called makeBill that is passed a customer id, a start date and an end date. The procedure calculates the total fines the customer owes between the start date and the end date inclusive and generates a new CustomerBill row for that customer. The billDate value for the new row is the current date. For example if a call to makeBill is passed customer id 10 and the dates 2021-02-01 (February 1, 2021) and 2021-02-28 and customer 10 has fines of $1.00, $0.75 and $2.25 for books returned on 2021-02-01, 2021-02-12 and 2021-02-28 respectively then the procedure inserts a row into the CustomerBill table containing the values (4.00, 2021-03-05, 10) (assuming March 5, 2021 is the current date). Remember since billNum is of type serial a value will be assigned to the billNum attribute of the new row by the database.

2. Let the Universal table be \( R = \{ A, B, C, D, E, F, G, H \} \)

Let \( FD = \{ AE \rightarrow B, B \rightarrow C, C \rightarrow D, CF \rightarrow DE, CH \rightarrow D, D \rightarrow E, DE \rightarrow F, EFG \rightarrow D, F \rightarrow G, FH \rightarrow C \} \) be the functional dependency set

A. What is the closure of ABH?

B. Is ABH a super key?

C. Is ABH a key? Why?