Exam questions
Semester II

Предварительный просмотр

DEVELOPMENT OF DATABASE MANAGEMENT SYSTEMS 2

ЭКЗАМЕН

Mark a distribution for which the specified estimation is accurate.

- [redacted] distribution
- [redacted] distribution
- [redacted] distribution
- [redacted] tribution

$$T(\sigma_{A=x}(R)) = T(R)/V(R,A)$$

ОК

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ЭКЗАМЕН

Mark the most accurate estimation on the average for the result of the specified operation.

- T([redacted]
- T([redacted]
- T([redacted]
- T([redacted]

$$\sigma_{A>x}(R)$$

ОК

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ЭКЗАМЕН

Given the following statistics for R(A,B): T(R) = [redacted], V(R,A) = [redacted], V(R,B) = [redacted]
Write an estimation for the result of the specified operation:

$$\sigma_{A=10}(R)$$

ОК

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ЭКЗАМЕН

Given the following statistics for R( ) and S( ):
T(R) = , V( ) = , V( ) = ;
T(S) = , V( ) = V( ) =

Write an estimation for the result of the specified operation .

$$R \bowtie S$$

ОК

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ЭКЗАМЕН

Given the following statistics for R( ) and S( ):
T(R) = , V( ) = , V( ) = ;
T(S) = , V( ) = V( ) =

Write an estimation for the result of the specified operation .

$$R \times S$$

ОК

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ЭКЗАМЕН

Given the following statistics for R( ) and S( ):
T(R) = , V( ) = , V( ) = ;
T(S) = , V( ) = V( ) =

Write an estimation for the result of the specified operation .

$$R \bowtie (\sigma\ (S))$$

ОК

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ЭКЗАМЕН

R

B	Number of occurrences
0	
1	
2	
3	
Others	

S

B	Number of occurrences
0	
1	
2	
4	
Others	

Given the following statistics for R( ) and S( ): V( ) = , V( ) =
Write an estimation for natural join of R and S relations using histograms.

Number of tuples with B=0	
Number of tuples with B=1	
Number of tuples with B=2	
Number of tuples with B=3	
Number of tuples with B=4	
Number of tuples with B>4	

Assumed that domain of B is the set of nonnegative integers.

ОК

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DEVELOPMENT OF DATABASE MANAGEMENT SYSTEMS 2

ЭКЗАМЕН

Given R(A,B); S(B,C); A, B – integers of [redacted] bytes,C – string of [redacted] bytes; tuple header – [redacted] bytes; size of block – [redacted] bytes; block header – [redacted] bytes. Let T(R)=[redacted], T(S)=[redacted].
Calculate the number of disk readings for nested loops disk join algorithm NLDJ (R and S don't entirely fit in main memory):

a) R is scanned in the inner loop

b) S is scanned in the inner loop

ОК

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ЭКЗАМЕН

Given R(A,B); S(B,C); A, B – integers of [redacted] bytes,C – string of [redacted] bytes; tuple header – [redacted] bytes; size of block – [redacted] bytes; block header – [redacted] bytes. Let T(R)=[redacted], T(S)=[redacted].
Calculate the number of disk readings for the nested loops memory join algorithm NLMJ (R entirely fits in main memory, S doesn't entirely fit in main memory)

ОК

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DEVELOPMENT OF DATABASE MANAGEMENT SYSTEMS 2

ЭКЗАМЕН

Given R(A,B); S(B,C); A, B – integers of [redacted] bytes,C – string of [redacted] bytes; tuple header – [redacted] bytes; size of block – [redacted] bytes; block header – [redacted] bytes. Let T(R)=[redacted], T(S)=[redacted].
Calculate the number of disk readings for the hash join algorithm HJ (R and S don't entirely fit in main memory): [redacted]

ОК

Предварительный просмотр

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ЭКЗАМЕН

Nested Loop Memory Join (NLMJ).
Open method: rearrange the lines in correct order (mooving by mouse)

1.	r
2.	}F); m = 0; node.rightSon.open(); node.rightSon.next(); };
3.	v
4.	N +;
5.	c

ОК

Rearrange the lines in correct order

- NLMJ: implementation of next method
- NLDJ: implementation of next method
- MJPK: implementation of next method