

Question 1

- Procedure for updating funding of sponsors. The sponsor has a contribution fund, found in the Sponsor relation, that is the amount they invested in the convention as a whole. They also have individual funding for each activity they sponsor, found in the Sponsorships relation. The procedure computes the amount of contribution money the sponsor hasn't yet spent on activities, and equally distributes it among activity funding.

Input: A valid Sponsor name

Before

Function Execution

sponsorships Enter a SQL expression to filter results (use Ctrl+Space)		
actname	sname	amount
Power Hour	Crunchybow1	600
Dance Dance Evolution	Funnymotion	1200
Narrative of Nelson Mandela	Funnymotion	5000
Dealers Room	Pear	500
Auction House	Pear	1100
Management in Analytics	Mvidia	700
Participatory Development and Global Warming	Mvidia	1200
Television Crime Drama	Mvidia	3000
Conservative Energy	Crunchybow1	700
Ethical Artificial Intelligence Workshop	MicroHard	4266
Marriage and Parenting	MicroHard	4866
Engineering Diversity in Montreal	MicroHard	5866

select distribute_contribution('Funnymotion')					
<					
Result Execution Log					
Time	Type	Text	Duration	Rows	Result
17:48:17	SQL / USER	select distribute_contribution('Funnymotion')	156 ms	1	Success
sponsor Enter a SQL expression to filter results (use Ctrl+Space)					
sname	contrib				
Crunchybow1	16500				
Funnymotion	19000				
MicroHard	15000				
Pear	20000				
Mvidia	15000				

After

sponsorships Enter a SQL expression to filter results (use Ctrl+Space)		
actname	sname	amount
Dance Dance Evolution	Funnymotion	7600
Narrative of Nelson Mandela	Funnymotion	11400
Power Hour	Crunchybow1	600
Dealers Room	Pear	500
Auction House	Pear	1100
Management in Analytics	Mvidia	700
Participatory Development and Global Warming	Mvidia	1200
Television Crime Drama	Mvidia	3000
Conservative Energy	Crunchybow1	700
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Question 3

- Index *Staff* on hours. When modifying the global max hours, we need to get all the members of staff whose hours exceed the new global maximum. Indexing staff on hours allows us to perform this operation faster.
- Index *Sponsorships* on sname. When altering the contribution for a sponsor, the user can also alter the sponsor's funding for individual activities. By indexing sponsorships on sname, we will be able to find all the records of an individual sponsor faster.

Creativity

- Trigger: every time a new activity is added to a staff member's schedule, check whether the new total hours assigned to this staff member still respect their supposed total amount of work hours.