

Running Organizations Project (Phase : Logical Design)

My objectives;

- * Transform E-R diagram to relations,
- * State primary and foreign keys,
- * Define functional dependencies,
- * Define first, second, and third normal form on entities,
- * Map the relations after normalization.

TEAM

<u>Team ID</u> (PK)	Team_Name	Number_Of_Members
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Normalization of Entity : "TEAM"	1st NF	2nd NF	3rd NF
	in 1st NF. Because all attributes are atomic.	in 2th NF. Because there are no partial dependencies.	in 3rd NF. Because there are no transitive dependencies.

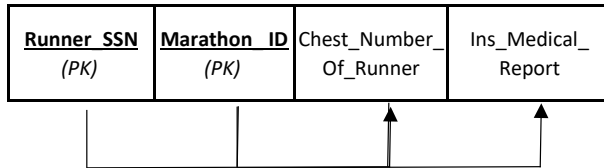
RUNNER

<u>Runner SSN</u> (PK)	Runner_Name	Runner_Midname	Runner_Surname	Age_Of_Runner	Sex_Of_Runner	--Team_ID-- (FK)
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Normalization of Entity : "RUNNER"	1st NF	2nd NF	3rd NF
	in 1st NF. Because all attributes are atomic.	in 2th NF. Because there are no partial dependencies.	in 3rd NF. Because there are no transitive dependencies.

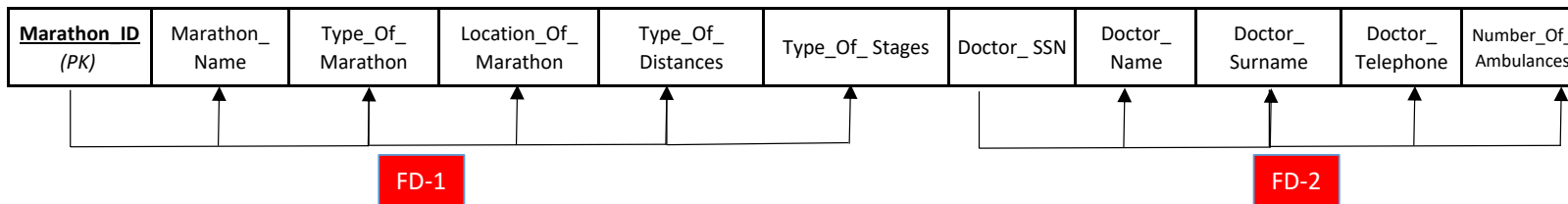
MARATHON_ATTENDANCE (Associative Entity)



** Composite PK's (Runner_SSN, Marathon_ID) are FK's separately also.*

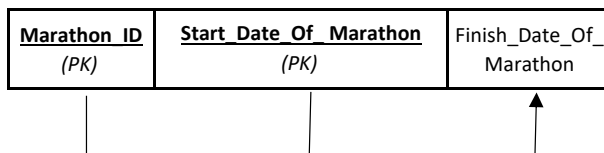
Normalization of Entity : "MARATHON_ATTENDANCE"	1st NF	2nd NF	3rd NF
	in 1st NF. Because all attributes are atomic.	in 2th NF. Because there are no partial dependencies.	in 3rd NF. Because there are no transitive dependencies.

MARATHON



Normalization of Entity : "MARATHON"	1st NF	2nd NF	3rd NF
	in 1st NF. Because all attributes are atomic.	in 2th NF. Because there are no partial dependencies.	NOT IN 3rd NF. (FD-2) Because there are transitive dependencies. We can determine Doctor's related attributes via "Doctor_SSN". FD-2 will be an entity at next step.

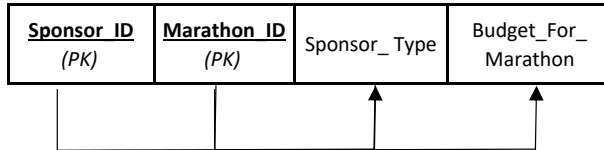
MARATHON_DATE



** Among the composite PK's (Marathon_ID, Start_Date_Of_Marathon), Marathon_ID is FK that references MARATHON entity.*

Normalization of Entity : "MARATHON_DATE"	1st NF	2nd NF	3rd NF
	in 1st NF. Because all attributes are atomic.	in 2th NF. Because there are no partial dependencies.	in 3rd NF. Because there are no transitive dependencies.

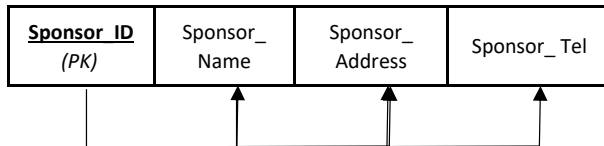
MARATHON_SPONSOR *(Associative Entity)*



** Composite PK's (Sponsor_ID, Marathon_ID) are FK's seperately also.*

Normalization of Entity : "MARATHON_SPONSOR"	1st NF	2nd NF	3rd NF
	in 1st NF. Because all attributes are atomic.	in 2th NF. Because there are no partial dependencies.	in 3rd NF. Because there are no transitive dependencies.

SPONSOR



Normalization of Entity : "SPONSOR"	1st NF	2nd NF	3rd NF
	in 1st NF. Because all attributes are atomic.	in 2th NF. Because there are no partial dependencies.	in 3rd NF. Because there are no transitive dependencies.

