COMP-3005 ASSIGNMENT#4

Muhammad Mustafa

100823576

R1.1) **FUNCTIONAL DEPENDENCIES:**

SID -> Song_Title,Publisher,Composer,Lyrics

CD_Title,Artist -> Label,Producer,Date

SID,Trackname -> Musician,Instrument

CD_Title,Artist,Trackname -> AppearsOn_TrackNo

R1.2) **MINIMAL COVER:**

SID -> Song_Title

SID -> Publisher

SID -> Composer

SID -> Lyrics

CD_Title,Artist -> Label

CD_Title,Artist-> Producer

CD_Title,Artist-> Date

SID,Trackname -> Musician

SID,Trackname ->Instrument

CD_Title,Artist,Trackname -> AppearsOn_TrackNo

R1.3) **Dependency Preserving, 3NF tables:**

[SID | Song_Title,Publisher,Composer,Lyrics]

[CD_Title,Artist | Label,Producer,Date]

[SID,Trackname | Musician,Instrument]

[CD_Title,Artist,Trackname | AppearsOn_TrackNo]

R2.1) **FUNCTIONAL DEPENDENCIES:**

SID -> Song_Title

BookCode -> Book_Title,Publisher,Date

BookCode,FileName -> Format,PageOffset

UserID -> Password,Name,EmailAddress

BookCode,SID -> AppearsIn_Page

FileName,UserID,BookCode -> temp

R2.2) **MINIMAL COVER:**

SID -> Song_Title

BookCode -> Book_Title

BookCode ->Publisher

BookCode -> Date

BookCode,FileName -> Format

BookCode,FileName -> PageOffset

UserID -> Password

UserID -> Name

UserID ->EmailAddress

BookCode,SID -> AppearsIn_Page

FileName,UserID,BookCode -> ~~temp~~

R2.3) **Dependency Preserving, 3NF tables:**

[SID | Song_Title]

[BookCode | Book_Title,Publisher,Date]

[BookCode,FileName | Format,PageOffset]

[UserID | Password,Name,EmailAddress]

[BookCode,SID | AppearsIn_Page]

[FileName,UserID,BookCode |]

R3.1) **FUNCTIONAL DEPENDENCIES:**

stdnum -> name,strnum,street,postcode,area_code,office_code,station_code,email

email -> stdnum

postcode -> city

area_code,office_code -> city

course_num -> department_name

period,room_num,term -> course_section

room_num -> building

stdnum,course_num,course_section -> grade

R3.2) **MINIMAL COVER:**

stdnum -> city

stdnum -> name

stdnum -> strnum

stdnum -> street

stdnum -> postcode

stdnum -> area_code

stdnum -> office_code

stdnum -> station_code

stdnum -> email

email -> stdnum

postcode -> city

area_code,office_code -> city

course_num -> department_name

period,room_num,term -> course_section

room_num -> building

stdnum,course_num,course_section -> grade

R3.3) **DEPENDENCY PRESERVING, 3NF TABLES**

[stdnum | name,strnum,street,postcode,area_code,office_code,station_code,email]

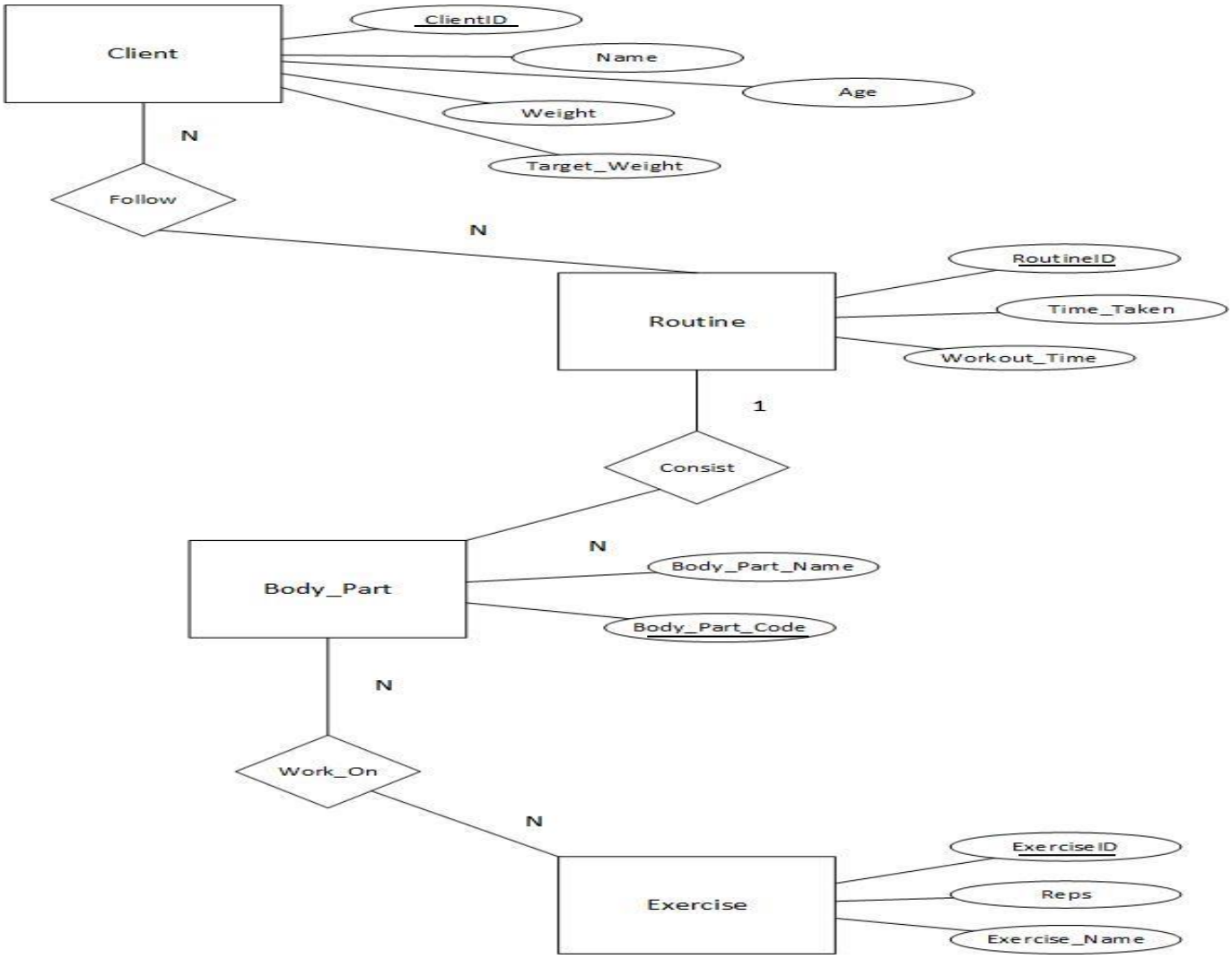
[postcode | city]

[course_num | department_name]

[period,room_num,term | course_section, building]

[stdnum,course_num,course_section | grade]

R4.1)



R4.2) **ATTRIBUTES**:

ClientID //client's ID for the client

Name //name of the client

Age //age of the client

Weight //weight of the client

Target_Weight //Target weight of the client

Routine_ID //ID of the exercise routine for the client

Time_Taken //Time taken for the client to complete a particular routine

Workout_Time //Expected time to complete the routine

Body_Part_Name //The name of the body part focused in the workout routine

Body_Part_Code //Unique code for each body part focused on in the routine

Exercise_ID //The unique ID given to the exercise in the particular routine

Reps //amount of repetitions to be completed for the exercise

Exercise_Name //name of the particular exercise

R4.3) **FUNCTIONAL DEPENDENCIES:**

ClientID -> Name, Age, Weight, Target_Weight

RoutineID -> Time_Taken, Workout_Time

Body_Part_Code -> Body_Part_Name

ExerciseID -> Reps, Exercise_Name

ClientID, RoutineID -> temp

RoutineID, Body_Part_Code -> temp

Body_Part_Code, ExerciseID -> temp

R4.4) **MINIMAL COVER:**

ClientID -> Name

ClientID -> Age

ClientID -> Weight

ClientID -> Target_Weight

RoutineID -> Time_Taken

RoutineID -> Workout_Time

Body_Part_Code -> Body_Part_Name

ExerciseID -> Reps

ExerciseID -> Exercise_Name

ClientID,RoutineID -> ~~temp~~

RoutineID,Body_Part_Code -> ~~temp~~

Body_Part_Code,ExerciseID -> ~~temp~~

R4.5) **DEPENDENCY PRESERVING, 3NF TABLES:**

[ClientID | Name,Age,Weight,Target_Weight]

[RoutineID | Time_Taken,Workout_Time]

[Body_Part_Code | Body_Part_Name]

[ExerciseID | Reps,Exercise_Name]

[ClientID,RoutineID |]

[RoutineID,Body_Part_Code |]

[Body_Part_Code,ExerciseID |]