

Repository.java

```
1 package project;
2
3 import java.util.ArrayList;
4
5 /* This class simulates the functionality of the Persistence Storage
6  * It is an In-Memory collection of Specific entities */
7 public class Repository {
8
9     /* Define the data structure to store the respective objects */
10    ArrayList<Participant> participantList=new ArrayList<Participant>();
11    ArrayList<Interests> interestList=new ArrayList<Interests>();
12    ArrayList<Relationships> relationshipsList=new ArrayList<Relationships>();
13
14    public Repository(){
15        createInterests();
16        createRelationships();
17        createParticipants();
18    }
19
20    /* This method add the given Participant object to the Participant List
21     * As Participant is the Aggregate Root to the Interests and Relationships
22     objects,
23     * Interests and Relationships objects will be added to the respective List as
24     well */
25    public void addParticipant(Participant p){
26        participantList.add(p);
27        relationshipsList.add(p.getRelationship());
28        interestList.add(p.getInterest());
29    }
30
31    /*This method add the newly created Participant Object into the IN-Memory
32    Collection
33     * and it is correctly extracted from the Questionnaire object*/
34    public void add(Object object){
35        int id=0;
36        if(object.getClass()==Questionnaire.class){
37            Questionnaire q=(Questionnaire)object;
38            Participant p=q.getParticipant();
39            if (participantList.size()==0){
40                id=1;
41            }
42            else id=participantList.get(participantList.size()-1).getId()+1;
43            p.setId(id);
44            addParticipant(p);
45        }
46    }
47
48    /*This method remove existing Participant Object from the IN-Memory Collection
49    */
50    public void remove(Participant participant){
51        Interests interest=participant.getInterest();
52        Relationships relationships=participant.getRelationship();
53        interestList.remove(interest);
54        relationshipsList.remove(relationships);
55    }
56 }
```

Repository.java

```
52     participantList.remove(participant);
53 }
54
55
56 /* Retrieval of all Participants objects from the In-Memory Collection*/
57 public ArrayList<Participant> getParticipants(){
58     return participantList;
59 }
60
61 /* Retrieval of single Participant object by using it's ID */
62 public Participant getParticipant(int id){
63     for( Participant p : participantList){
64         if (p.getId()==id){
65             return p;
66         }
67     }
68     return null;
69 }
70
71 /* Clear the Collection */
72 public void clear(){
73     participantList.clear();
74     interestList.clear();
75     relationshipsList.clear();
76 }
77
78 /* Created Participant objects for simulating the retrieval of data from
79 Persistence storage
80 * In-Memory data created for testing */
81 private void createParticipants(){
82     participantList.add(new Participant(1, 16, "Female", "Any other Asian
83 background", "student", "barnet", "barnet", "Secondary School"));
84     participantList.add(new Participant(2, 25, "Female", "Any other ethnic
85 group", "Graduate Student", "USA", "Greece", "University(Undergraduate)"));
86     participantList.add(new Participant(3, 44, "Male", "American", "Physical
87 Therapist", "Virginia Beach", "St Louis", "University(Undergraduate)"));
88     participantList.add(new Participant(4, 21, "Female", "Any other White
89 Background", "Retail", "Australia", "Australia", "Secondary School"));
90     participantList.add(new Participant(5, 37, "Male", "Any other White
91 background", "doctor", "Athens", "Athens", "University(Postgraduate)"));
92     participantList.add(new Participant(6, 49, "Male", "Any other Asian
93 background", "99", "London", "India", "Other"));
94     participantList.add(new Participant(7, 18, "Male", "British", "99",
95 "Norwich", "London", "College/6th Form"));
96     participantList.add(new Participant(8, 27, "Male", "Any other White
97 background", "Student", "99", "99", "University(Postgraduate)"));
98     participantList.add(new Participant(9, 18, "Female", "Irish", "Student",
99 "London", "London", "College/6th Form"));
100    participantList.add(new Participant(10, 19, "Female", "Indian", "Student",
101 "London", "London", "College/6th Form"));
102    participantList.add(new Participant(11, 18, "Male", "African", "Student",
103 "Brighton", "Barnet", "College/6th Form"));
104    participantList.add(new Participant(12, 46, "Female", "Any other White
105 background", "Housewife", "Abroad", "Greece", "Secondary School"));
106    participantList.add(new Participant(13, 24, "Female", "Any other White
```

Repository.java

```

background", "Customer Service", "99", "99", "University(Graduate)"));
94     participantList.add(new Participant(14, 45, "Female", "Any other White
background", "Unemployed", "Athens", "Greece", "Other"));
95     participantList.add(new Participant(15, 24, "Female", "Any other White
background", "Teacher ", "Greece ", "Greece", "University(Undergraduate)"));
96     for (Participant p :participantList){
97         Interests i=this.getInterests(p.getId());
98         Relationships r=this.getRelationship(p.getId());
99         p.setInterest(i);
100        p.setRelationship(r);
101    }
102    RelationshipRatingService.rankPariticipantsByRelationship(this);
103 }
104
105 /* Created Interests objects for simulating the retrieval of data from
Persistence storage
106  * In-Memory data created for testing */
107 private void createInterests(){
108     interestList.add(new Interests(1,"I don't regularly exercise",
"knitting,diy,cooking", 0, 0, 0, "be the change you wish to see in the world", 0,
"unique", "in uni-happy(i dont know what the future holds )", "lasagna", "soaps",
"Mystery", "watch videos", "RnB", "Comedy", 0, "GCSE", "getting bad grades",
"kindness", "not sharing", "baking", "being more confident"));
109     interestList.add(new Interests(2, "2-4 days a week", "No hobbies", 0, 0,
0, "If a new day starts, dare to smile gratefully.", 0, "Loyal, supportive,
outgoing.", "Finishing my PsyD", "Spaghetti Carbonnara", "Friends, Penny dreadful,
Salem", "Mystery", "Relaxing, watching series, hunging out with friends", "RnB",
"Comedy", 1, "Getting into the Grad School", "I dont know. Have a few in my
personal life.", "Patience. ", "I am overreacting in some cases. ", "Helping
others.", "Not learning from some of my experiences.));
110     interestList.add(new Interests(3, "Once a week", "", 0, 0, 1, "", 0,
"Outgoing, determined, and intuitive ", "", "Brownies", "", "Non-Fiction", "Sit
and relax", "Pop", "Comedy", 1, "", "", "Positive attitude", "Stubbornness ",
"Helping people follow their own passion", "Be more type B"));
111     interestList.add(new Interests(4, "Once a week", "Video games, shopping,
music", 0, 0, 0, "Oh it's so easy to say - Give what you think you lack - You
feel unloved? Then give love, and love, and love..... On the other hand - Do
you have any better advice?", 0, "Small, hopeful, loving", "Eating nuggets",
"Pasta", "The IT Crowd", "Action/Adventure", "Sleep", "Pop", "Comedy", 1, "Being a
good friend", "Upsetting my mum", "Caring", "Over emotional ", "Making people
laugh", "My laziness"));
112     interestList.add(new Interests(5, "Once a week", "internet, music,
cinema", 0, 0, 1, "work hard, play hard", 0, "smart, kind, handsome, stressful",
"married with children and succesful at work", "meat, any", "friends", "Science",
"going out, gym, internet", "Dance", "Sci-Fi", 0, "Being a good person in
general", "The few times i let people down", "mind", "anxiety", "women and ...
style", "less stress"));
113     interestList.add(new Interests(6, "I don't regularly exercise",
"Sleeping", 1, 1, 0, "Godson", 0, "Dumb", "An old man", "Rice", "", "Poetry",
"Sleep", "Classical", "Action", 0, "", "", "", "", "", ""));
114     interestList.add(new Interests(7, "Once a week", "Going for walks,
origami, gymnastics", 0, 0, 0, "Magic, indeed, is all around us, in stones,
flowers, stars, the dawn wind and the sunset cloud; all we need is the ability to
see and understand.", 0, "Curious, dreamer, non-conformist", "In a tree", "Candy
Floss", "Jesisca Jones, Arrow", "Action/Adventure", "Read, watch TV/Youtube, go

```

Repository.java

```

    for walks", "Pop", "Drama", 1, "Becoming a vegan", "", "", "Envy", "I love plants
    :D", "Clear my bad skin :/"));
115     interestList.add(new Interests(8, "I don't regularly exercise", "", 0, 0,
    1, "", 0, "", "", "", "Narcos, Dexter", "Non-Fiction", "", "Rock", "Mystery", 0,
    "", "", "", "", "", ""));
116     interestList.add(new Interests(9, "I don't regularly exercise", "Reading,
    socialising, social media", 0, 0, 0, "N/A", 0, "Talkative, unique, nice", "Working
    probably", "Lamb", "My dream home, teen wolf", "Action/Adventure", "Watch TV, read
    books, socialise with friends, social media browse", "RnB", "Comedy", 1, "N/A",
    "N/A", "My personality", "My looks ", "God, music, literature etc", "N/A"));
117     interestList.add(new Interests(10, "I don't regularly exercise", "reading,
    hanging out online, creative writing", 0, 0, 0, "Good-night, my- He stopped, bit
    his lip, and abruptly left me._??", 0, "annoying, sensitive, a thinker", "dead, or
    stuck in a job I dislike", "Xiao long bao (soup dumplings)", "Gilmore Girls,
    Brooklyn Nine Nine, ", "Drama", "Netflix!", "Pop", "Comedy", 0, "Staying alive
    this long", "Staying alive this long", "My supportive attitude", "My constant
    cycle of loving life and then hating i", "Literature", "Stop being so annoying"));
118     interestList.add(new Interests(11, "", "Ukulele. Skateboarding ", 0, 0,
    5, "", 0, "Weirdo", "With a degree and working as some sort of physicist. Or on
    YouTube for some stupid reason ", "Pizza", "Got, Rick and Morty",
    "Action/Adventure", "My hobbies, masturbate ", "", "Comedy", 1, "Dunno tbh birth?
    ", "Having to go through clearing ", "I actually talk to people ", "I talk too
    much and don't make sense ", "Making friends ", "I'd be cooler"));
119     interestList.add(new Interests(12, "2-4 days a week", "Drawing, reading,
    making jewllery", 0, 0, 0, "Dont judge anyone ever!!!!", 0, "Honest and lonely
    ...", "Probably be a grandmother", "protein, veggies, cheese and dessert",
    "Action series", "Drama", "Reading, listening to music, talking to people I love",
    "Pop", "Action", 1, "My children", "The lack of self confidence ", "Honesty",
    "when I feel negativity I cannot suppress my feeli", "To help people to deal with
    their emotions", " I would have studied psychology and devote time to fine
    arts"));
120     interestList.add(new Interests(13, "I don't regularly exercise", "", 0, 0,
    0, "", 0, "", "", "", "", "Science", "", "Country", "Crime", 1, "", "", "", "",
    "", ""));
121     interestList.add(new Interests(14, "I don't regularly exercise", "making
    puzzles", 0, 0, 0, "don't worry be happy", 0, "", "I hope to a better place",
    "spaghetti ", "walking dead,grey's anatomy, criminal minds and ma", "Mystery", "be
    on facebook", "Dance", "Crime", 1, "my son", "loosing my mother", "", "", "",
    ""));
122     interestList.add(new Interests(15, "I don't regularly exercise",
    "reading", 0, 0, 1, "-", 0, "logical,persistent,shy", "traveling", "spaghetti",
    "Grimm,The 100 etc.", "Sci-Fi", "I don't have free time.", "Rock", "Romance", 0,
    "my degree", "my job", "faithfulness", "single-mindedness", "Books", "More
    carefree"));
123
124 }
125
126 /* Created Relationships objects for simulating the retrieval of data from
    Persistence storage
127  * In-Memory data created for testing */
128 private void createRelationships(){
129     relationshipsList.add(new Relationships(1,"Single", 0, 1, "0 months",
    "Heterosexual", "Married", "0 months", 0, 3, 1, 3, 3, 3, "family grades",
    "Hinduism"));
130     relationshipsList.add(new Relationships(2, "Single", 16, 0, "3 years",

```

Repository.java

```

"Heterosexual", "Married", "3 years", 0, 4, 3, 4, 4, 4, "Family honesty
graditute", "Christianity (Catholic Orthodox etc)"));
131     relationshipsList.add(new Relationships(3, "Married", 17, 0, "19 years",
"Heterosexual", "Married", "19 years", 4, 4, 3, 3, 4, 4, "Honesty and integrity ",
"Christianity (Catholic Orthodox etc)"));
132     relationshipsList.add(new Relationships(4, "Single", 13, 1, "3 months",
"Bisexual", "Single", "0 months", 0, 3, 1, 4, 4, 4, "Honesty", "Agnostic"));
133     relationshipsList.add(new Relationships(5, "In an open relationship", 17,
0, "7 years", "Heterosexual", "Married", "1 months", 0, 4, 5, 5, 3, 3, "kindness
honesty helping people", "Christianity (Catholic Orthodox etc)"));
134     relationshipsList.add(new Relationships(6, "Married", 37, 1, "11 years",
"Bisexual", "Married", "11 years", 2, 1, 1, 1, 5, 5, "Sleeping", "Hinduism"));
135     relationshipsList.add(new Relationships(7, "Single", 0, 1, "0 months",
"Homosexual", "Married", "0 months", 0, 4, 1, 3, 5, 5, "Morality freedom
altruism", "Agnostic"));
136     relationshipsList.add(new Relationships(8, "In an exclusive relationship",
13, 0, "4 years", "Heterosexual", "Married", "4 years", 0, 5, 1, 3, 2, 2, "n/a",
"Christianity (Catholic Orthodox etc)"));
137     relationshipsList.add(new Relationships(9, "Single", 0, 1, "0 months",
"Heterosexual", "Married and single", "0 months", 0, 3, 1, 2, 3, 3, "friends God
family", "Christianity (Catholic Orthodox etc)"));
138     relationshipsList.add(new Relationships(10, "Single", 0, 1, "0 months",
"Bisexual", "Divorced", "0 months", 0, 3, 1, 2, 3, 3, "honesty appreciation
support", "Atheist"));
139     relationshipsList.add(new Relationships(11, "Single", 16, 1, "2 months",
"Heterosexual", "Single", "0 months", 0, 3, 1, 3, 3, 3, "Trust loyalty ",
"Agnostic"));
140     relationshipsList.add(new Relationships(12, "Married", 15, 0, "26 years ",
"Heterosexual", "Married", "26 years", 2, 4, 2, 5, 4, 4, "To be honest and being
around people I respect", "Christianity (Catholic Orthodox etc)"));
141     relationshipsList.add(new Relationships(13, "In an exclusive
relationship", 16, 0, "6 years", "Heterosexual", "Married", "6 years", 0, 2, 4, 2,
4, 4, "n/a", "Atheist"));
142     relationshipsList.add(new Relationships(14, "Married", 15, 0, "20 years",
"Heterosexual", "Widower", "20 years", 1, 4, 3, 2, 2, 2, "family", "Christianity
(Catholic Orthodox etc)"));
143     relationshipsList.add(new Relationships(15, "Single", 0, 1, "0 months",
"Heterosexual", "Married", "0 months", 0, 4, 1, 2, 1, 1, "honesty respect
politeness", "Other"));
144
145     }
146
147     /* Retrieval of single Relationships object by using it's ID */
148     private Relationships getRelationship(int id){
149         for( Relationships r : relationshipsList){
150             if (r.getId()==id){
151                 return r;
152             }
153         }
154         return null;
155     }
156
157     /* Retrieval of single Interests object by using it's ID */
158     private Interests getInterests(int id){
159         for( Interests interest : interestList){

```

Repository.java

```
160         if (interest.getId()==id){
161             return interest;
162         }
163     }
164     return null;
165 }
166
167 /* This method retrieve the Participant objects in two dimensional array
format*/
168 public Object[][] getParticipantsArray(){
169
170     int size=participantList.size();
171     Object[][] participantsArray=new Object[size][8];
172
173     for(int i=0;i<size;i++){
174
175         Participant p=participantList.get(i);
176         participantsArray[i][0]=p.getId();
177         participantsArray[i][1]=p.getAge();
178         participantsArray[i][2]=p.getGender();
179         participantsArray[i][3]=p.getEthnicity();
180         participantsArray[i][4]=p.getOccupation();
181         participantsArray[i][5]=p.getCountry();
182         participantsArray[i][6]=p.getOrigin();
183         participantsArray[i][7]=p.getEducation();
184     }
185     return participantsArray;
186 }
187
188 /* This method return the Participant attributes name as one dimensional array
format*/
189 public String[] getParticipantsAttributes(){
190     return new
String[]{"ID","Age","Gender","Ethnicity","Occupation","Country","Origin","Educati
on"};
191 }
192
193 }
194
```