```
BCNF:
         Here in R13and R14 ( c10-->p8 & p8-->c10)
         Thus, there is a recursive relation among these attributes.
         So, we kept that as is. BCNF as well. Therefore, our 3NF
         relations are all in BCNF as well.
         R11
         R12
                                 c13 c14 c15 c16 p8
                           c12
         R14
                           c10 a12
                                       p9
                                             p10
                                 p8 a13 a14
                <u>a12</u>
         R16
         R17
         R18
                      s0
               <u>p5</u>
                            p6
                                  p7
         R21
                           d4
         R61
         R62
        R101
                                        c6
        R102
                                  d5
        R103 <u>s10</u> s11 s12 s13 <u>c2</u> d2
                                                                      a9 a10 a11
                                a3
                                                                a8
               <u>s3</u>
                    <u>p0</u>
                         <u>c0</u>
                                             s6
                                                         s8
                                                              s9
                                s4
                                      s5
                                                   s7
               <u>d0</u>
                    d1
         R8
                          m
         R9
                     W
                          X
                         Figure: Normalization For Mental Health Support System
      <u> 1NF:</u>
                                                                         p9 | p10 | p11 | c11 | c12 | c13 | c14 | c15 | c16 | a12 | a13 | a14 | r0 | r1 | r2 | r3 | r4 |
                                      c6
         R3
                                                         s8
                                       s5
                                                                      a9 a10 a11
                                                                a8
        R5 <u>d0</u> d1
         R8
                    I m n o
                     WX
        R10 <u>s10</u> s11 s12 s13 c2 c3 c4 c6 c7 c8 c9 d2 d3 d4 d5 d6
    <u> 2NF:</u>
          Here R1,R2,R3,R4,R5,R6,R7,R8,R9,R10 are already in 2NF
                                                                           p9 | p10 | p11 | c11 | c12 | c13 | c14 | c15 | c16 | a12 | a13 | a14 | r0 | r1
                                                           p6
                                                                p7
                                                                                                                                                  r2
                 <u>p5</u>
                     p0
                                                       p4
                                                                      p8
          R1
                                                                                  d5
                      c3
                                              c7
                                                                            d4
                           c4
                                                    c8
                                                                                                                       event_id(a)->topic(b),date(c),address(d),details(e),duration(f),eventType(g),organization_id(p)
                                                                                                                       wevent_id(h)->handsOnActivites(i),followUpSession(j)
                                                                             a10 a11
                <u>a0</u>
                                                           a7
                                                     a6
                      a1
                                        a4
                                                                                                                       sevent_id(k)->lectureNotes(l),presentationSlides(m),qnaSession(n),mediaCoverage(o)
                                                                                                                       organization_id(p)->organization_name(q),address(r),contact_no(s),email(t),organizationType(u)
          R4
                 <u>s3</u>
                      <u>p0</u>
                                        s5
                                              s6
                                                    s7
                                                          s8
                                                                s9
                                 s4
                            <u>c0</u>
                                                                                                                       participent_id(v)->feedback(w),rating(x)
                      d1
                                                                                                                       userId(a0)->first_name(a1),last_name(a2), gender(a3),contactNo(a4), email(a5), dob(a6), accountType(a7), house_no(a8), road_no(a9), area(a10), district(a11)
                 <u>d0</u>
                                                                                                                       puserId(p0)->dateOfRegistration(p1), ethnicity(p2), education(p3), employmentStatus(p4),
                                                                                                                       report_id(r0)
                                                                                                                       duserId(d0)->department(d1)
                                                                                                                       cuserld(c0)->counseling_process(c1)
                                                                                                                       suserId(s0)->licenseNo(s1),specialization(s2)
          R8
                                                                                                                       sessionId(s3),puserId(p0), cuserId(c0)->date(s4), time(s5), duration(s6), note(s7), feedback(s8),
                                                                                                                       rating(s9)
                       W
                             X
                                                                                                                       appoinmentId(a12)-> date(a13), time(a14), prescriptionId(5), puserId(p0), suserId(s0)
                                                                                                                       prescriptionId(5))->advice(p6), suggestCouncilor(p7), puserId(p0), suserId(s0),center_id(c10)
                <u>s10</u> s11 s12
                                                                                                    d5
                                                                                                         d6
                                 s13
                                        c2
                                              c3
                                                          c6
                                                                                              d4
                                                    c4
                                                                            c9
                                                                                                                       clinic_id(c2)->clinic_name(c3), contact_no(c4), email(c5), road_no(c6),area(c7), district(c8),
                                                                                                                       division(c9), department_id(d2)
                                                                                                                       schedual_id(s10)->doctor_name(s11), date(s12), time(s13),clinic_ld(c2)
                                                                                                                       department_id(d2)->department_name(d3), roomNo(d4), floorNO(d5), buildingNO(d6)
   <u> 3NF:</u>
                                                                                                                       center_id(c10)->houseNo(c11), roadNo(c12), area(c13), district(c14), email(c15), contact_no(c16),
                          p2
                                р3
                                      р4
                                                                                                                       paymentld(p8)
                                                                                                                       report_id(r0), center_id(c10),puserId(p0)->checkupdate(r1), deliveryDate(r2), diagnosisId(r3), test_name(r4), charge_fee(r5), diagnosesReport(r6)
        R12
                                                       c10
                                            r5
                                                                                                                       paymentId(p8)->puserId(p0), centerId(c10),appointmentId(a12),amount(p9), payment_date(p10),
                                                                                                                       payment_status(p11)
                                c13 c14 c15 c16
                                                                                                                       a->b,c,d,e,f,g,p
        R14
                                a12
                                           p10 p11
                          c10
                                       p9
                                                                                                                       h->i,j
                                                                                                                       k->I,m,n,o
                                      a13 a14
              <u>a12</u>
                          c0
                                 p8
                                                                                                                       p->q,r,s,t,u
                                                                                                                       v->w,x
       R16
              <u>c0</u>
                                                                                                                       a0->a1,a2,a3,a4,a5,a6,a7,a8,a9,a10,a11
                                                                                                                       p0->p1,p2,p3,p4,r0
       R17
                          s2
               <u>s0</u>
                    s1
                                                                                                                       d0->d1
        R18
                                                                                                                       c0->c1
               <u>p5</u>
                     s0
                           p6
                                p7
                                                                                                                       s0->s1,s2
       R21
                                      d6
                                d5
                     d3
                          d4
                                                                                                                       s3,p0,c0->s4,s5,s6,s7,s8,s9
                                                                                                                       a12->a13,a14,p0,c0,p8
       R22
                                                             d2
                                c5
                                     c6
                                                  c8
                                                       c9
              <u>c2</u>
                    c3
                         c4
                                            c7
                                                                                                                       p5->p6,p7,p0,s0,c10
                                                                                                                       c2->c3,c4,c5,c6,c7,c8,c9,d2
       R61
                                 S
                                                                                                                       s10->s11,s12,s13,c2
        R62
                                                                                                                       d2->d3,d4,d5,d6
                                                                                                                       c10->c11,c12,c13,c14,c15,c16,p8
       R101
                                c5
                                      с6
                                           c7
                                                 c8
                                                       c9
                                                             d2
               <u>c2</u>
                     c3
                          c4
                                                                                                                       r0->r1,r2,r3,r4,r5,r6,c10
                                                                                                                       p8->p0,c10,a12,p9,p10,p11
       R102
                          d4
                                d5
                                      d6
        R103
                    s11 s12 s13
               <u>s10</u>
       Here R3,R4,R5,R7,R8,R9 are already in 3NF
                                                                           a10 a11
                          a2
                                a3
                                                          a7
              <u>a0</u>
                    a1
                                             a5
                                                   a6
                                                                a8
                                                                      a9
         R3
                                       a4
         R4
               <u>s3</u>
                    <u>p0</u>
                         <u>c0</u>
                                      s5
                                             s6
                                                   s7
                                                         s8
                                                              s9
                                s4
               <u>d0</u> d1
         R5
         R7
         R8
                           m
                                      0
         R9
Here in R13and R14 ( c10-->p8 & p8-->c10)
Thus, there is a recursive relation among these attributes.
So, we kept that as is. BCNF as well. Therefore, our 3NF
relations are all in BCNF as well.
                        р3
                              p4
      <u>r0</u>
                                    r5
                 c12 c13 c14 c15 c16 <u>p8</u>
                             p9
                                   p10 p11
      <u>p8</u>
                       a12
                  c10
                             a13 a14
      <u>a12</u>
                        p8
```

s6

s5

s4

n

s7

BCNF:

R12

R13

R14

R18 <u>p5</u>

s0 p6 p7

c5

c6

c8

c9

a7

a10 a11

c3 c4

R103 s10 s11 s12 s13 c2 d2

m

<u>d0</u> d1

W