Assignment-3

1) $\{t \mid t \in film\ (t[year] = 2010)\}$

2) $\{t \mid t \in Actor\ (t[age] > 39 \wedge t[age] < 30)\}$

3) $\{t \mid \exists x \in Director\ (t[name] = x[name])\}$

4) $\{t \mid \exists x \in Director\ (t[name] = x[name] \wedge x[nationality] = 'Indian')\}$

5) $\{t \mid \exists x \in Actor\ (t[name] = x[name] \wedge x[nationality] = 'Indian' \wedge x[Age] < 40)\}$

6) $\{t \mid \exists a \in Actor(t[name] = a[name]) \wedge \forall f \in film(\exists p \in Performance\ (f[film\ ID] = p[film\ ID] \wedge a[actor\ ID] = p[actor\ ID]) \wedge t[title] = f[title])\}$

7) $\{t \mid \exists x \in Actor\ (t[name] = x[name]) \wedge \exists y \in Performance\ (y[character] = "Prodosh\ Mitter") \wedge x[name] = y[name]\}$

8) $\{t \mid \exists a \in Actor\ (t[name] = a[name]) \wedge \exists f \in film(t[year] = f[year]) \wedge \exists p \in Performance\ (p[character] = "Prodosh\ Mitter") \wedge a[actorID] = p[actorID] \wedge f[filmID] = p[filmID]\}$

9) $\{t \mid \exists a \in Actor\ (t[actorID] = a[actorID] \wedge t[name] = a[name] \wedge t[nationality] = a[nationality] \wedge t[age] = a[age]) \wedge \forall p \in Performance(\exists f \in film\ (f[title] = "Mother\ India" \wedge p[filmID] = f[filmID]) \wedge a[actorID] = p[actorID]\}$

10) $\{ t \mid \exists a \in Actor \ (t[name] = a[name]) \land \forall f \in Film \ (\exists d \in Director \ (d[name] = $ "Christopher Nolan") $\land f[director ID] = d[director ID]) \land \exists p \in $

Performance $(p[film ID] = f[film ID] \land a[actor ID] = p[actor ID])) \}$

11) $\{ t \mid \exists a \in Actor (t[actor ID] = a[actor ID] \land t[name] = a[name] \land t[nationality] = $

$a[nationality] \land t[age] = a[age]) \land \exists f \in Film \ (f[director ID] = a[director ID] \}$