

Zaccheus Sheehan Sia
17032467

$$\begin{aligned} r1 : & \forall X,Y,r \text{ OnChair}(X, r) \wedge \text{OnChair}(Y, r) \Rightarrow X = Y \\ r2 : & \forall r,s \text{ OnChair}(A, r) \wedge \text{OnChair}(B, s) \Rightarrow |r - s| \neq 1 \\ r3 : & \forall r,s \text{ OnChair}(B, r) \wedge \text{OnChair}(C, s) \Rightarrow |r - s| = 1 \\ r4 : & \forall r \text{ OnChair}(D, r) \vee \text{OnChair}(E, r) \Rightarrow r \neq 1 \wedge r \neq 5 \\ r5 : & \forall r,s \text{ OnChair}(C, r) \wedge \text{OnChair}(D, s) \Rightarrow |r - s| \neq 1 \\ r6 : & \forall r,s \text{ OnChair}(A, r) \wedge \text{OnChair}(E, s) \Rightarrow |r - s| = 2 \end{aligned}$$

r1 = No two persons can be seated on the same chair.

r2 = Persons A and B are not seated next to each other.

r3 = Persons B and C are seated next to each other.

r4 = Both persons D and E are not seated on chairs 1 or 5.

r5 = Persons C and D are not seated next to each other.

r6 = Persons A and E have a 1 seat gap between them.

