

```
(defun c:CreateTrainModel ( / trainBody wheelRadius wheelHeight wheelOffset)
```

```
  ; Define parameters
```

```
  (setq trainLength 50) ; Length of the train body
```

```
  (setq trainWidth 10) ; Width of the train body
```

```
  (setq trainHeight 12) ; Height of the train body
```

```
  (setq wheelRadius 2) ; Radius of the wheels
```

```
  (setq wheelHeight 1) ; Height of the wheels
```

```
  (setq wheelOffset 4) ; Offset of the wheels from the train body
```

```
  ; Create the train body (a rectangular box)
```

```
  (setq p1 (list 0 0 0)) ; Bottom-left corner
```

```
  (setq p2 (list trainLength 0 0)) ; Bottom-right corner
```

```
  (setq p3 (list trainLength trainWidth 0)) ; Top-right corner
```

```
  (setq p4 (list 0 trainWidth 0)) ; Top-left corner
```

```
  (setq p5 (list 0 0 trainHeight)) ; Bottom-left top corner
```

```
  (setq p6 (list trainLength 0 trainHeight)) ; Bottom-right top corner
```

```
  (setq p7 (list trainLength trainWidth trainHeight)) ; Top-right top corner
```

```
  (setq p8 (list 0 trainWidth trainHeight)) ; Top-left top corner
```

```
  ; Draw the 3D box (train body)
```

```
  (command "3dface" p1 p2 p3 p4)
```

```
  (command "3dface" p5 p6 p7 p8)
```

```
  (command "3dface" p1 p2 p6 p5)
```

```
  (command "3dface" p2 p3 p7 p6)
```

```
  (command "3dface" p3 p4 p8 p7)
```

```
  (command "3dface" p4 p1 p5 p8)
```

```
  ; Create wheels (at the four corners of the train body)
```

```
  (setq wheelOffsetX 2)
```

```
  (setq wheelOffsetY 2)
```

```
; Function to create a wheel (cylinder)
(defun create-wheel (x y)
  (command "CYLINDER" (list x y 0) wheelRadius wheelHeight)
)
```

```
; Create wheels at each corner of the train body
(create-wheel wheelOffsetX wheelOffsetY)
(create-wheel (- trainLength wheelOffsetX) wheelOffsetY)
(create-wheel wheelOffsetX (- trainWidth wheelOffsetY))
(create-wheel (- trainLength wheelOffsetX) (- trainWidth
wheelOffsetY))
```

```
(princ "\nTrain Model Created!")
)
```

```
; Run the function when the user types 'CreateTrainModel'
(princ "\nType 'CreateTrainModel' to create a basic train model.")
(princ)
```