Activity Diagram for Ackermann class

```
                              ●
                              │
                              ▼
              ┌─────────────────────────────────┐
              │  Get Current Heading, current    │
              │         Velocity and dt          │
              └─────────────────────────────────┘
                              │
                              ▼
                           ╱     ╲
                         ╱  if current ╲
┌──────────────────┐ Yes╱ Heading is converged╲◄──────────────────────┐
│ return current   │◄───│    to a threshold     │                      │
│    Heading       │     ╲                     ╱                        │
└──────────────────┘       ╲                 ╱                          │
         │                   ╲     No      ╱                            │
         ▼                         │                                    │
         ●                         ▼                                    │
              ┌─────────────────────────┐   ┌──────────────────────────┐
              │ Calculate Radius of     │──►│ Calculate the Arc Length =│
              │ Curvature from Target   │   │ 2 * PI * radiusOfCurvature│
              │ Heading                 │   │ * targetHeading / 360     │
              └─────────────────────────┘   └──────────────────────────┘
                                                          │
                                                          ▼
         ┌─────────────────────────┐   ┌──────────────────────────┐
         │ Calculate innerWheelAngle│◄──│ Calculate the distance   │
         │ and outerWheelAngle      │   │ travelled =              │
         └─────────────────────────┘   │ currentVelocity * dt     │
                     │                  └──────────────────────────┘
                     ▼
         ┌─────────────────────────┐   ┌──────────────────────────┐
         │ Set wheel angles to the │──►│ Calculate Current Heading │
         │ computed angles         │   │ = distTravelled *         │
         └─────────────────────────┘   │ targetHeading / arcLength │
                                        └──────────────────────────┘
```

Get Current Heading, current Velocity and dt

if current Heading is converged to a threshold

return currentHeading — **Yes**

No

Calculate Radius of Curvature from Target Heading

Calculate the Arc Length = 2 * PI * radiusOfCurvature * targetHeading / 360

Calculate the distance travelled = currentVelocity * dt

Calculate innerWheelAngle and outerWheelAngle

Set wheel angles to the computed angles

Calculate Current Heading = distTravelled * targetHeading / arcLength