```c
int32_t BSD_Init(BSD_Handle_t *handle, BSD_Param_t *param)
{
    memset((void *)handle, 0, sizeof(BSD_Handle_t));
    memcpy((void *)&(handle->param), (void *)param, sizeof(BSD_Param_t));
    return 0;
}
```

C 库函数 `void *memset(void *str, int c, size_t n)` 复制字符 c（一个无符号字符）到参数 str 所指向的字符串的前 n 个字符。

该行代码为handle分配了内存空间，并将存储的值清为0。

重置结构体变量 handle（BSD_Init的指针参数）

C 库函数 `void *memcpy(void *str1, const void *str2, size_t n)` 从存储区 str2 复制 n 个字节到存储区 str1。

```c
int32_t BSD_Run(BSD_Handle_t *handle, Vehicle_Signal_t *vehicle, TRK_ObjList_t
*objlist)
{
    if(vehicle->IPK_BSD_Enable == ENABLE)
    {
        handle->enable = ENABLE;

        if(BSD_ActiveStateUpdate(handle, vehicle) == ACTIVE)
        {
            handle->active = ACTIVE;
            BSD_WarningLevelUpdate(handle, vehicle, objlist);
        }
        else
        {
            handle->active = INACTIVE;
            handle->warning =NO_WARNING;
            handle->exitingTime = 0u;
        }
    }
    else
    {
        handle->enable = DISABLE;
        handle->active = INACTIVE;
        handle->warning = NO_WARNING;
        handle->exitingTime = 0u;
    }
    return 0;
}
```
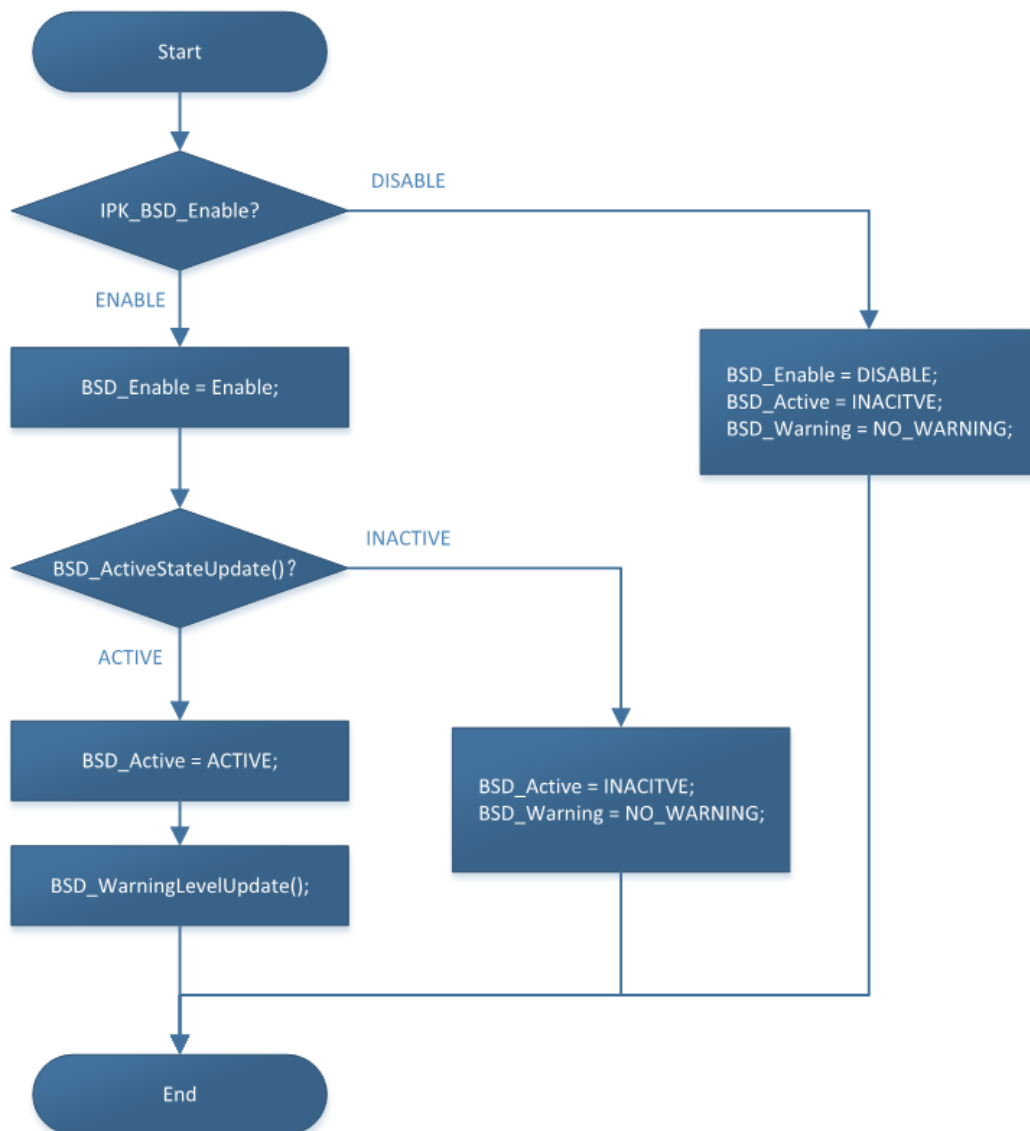
```
(BSD_Handle_t *handle, Vehicle_Signal_t *vehicle, TRK_ObjList_t *objlist)
```
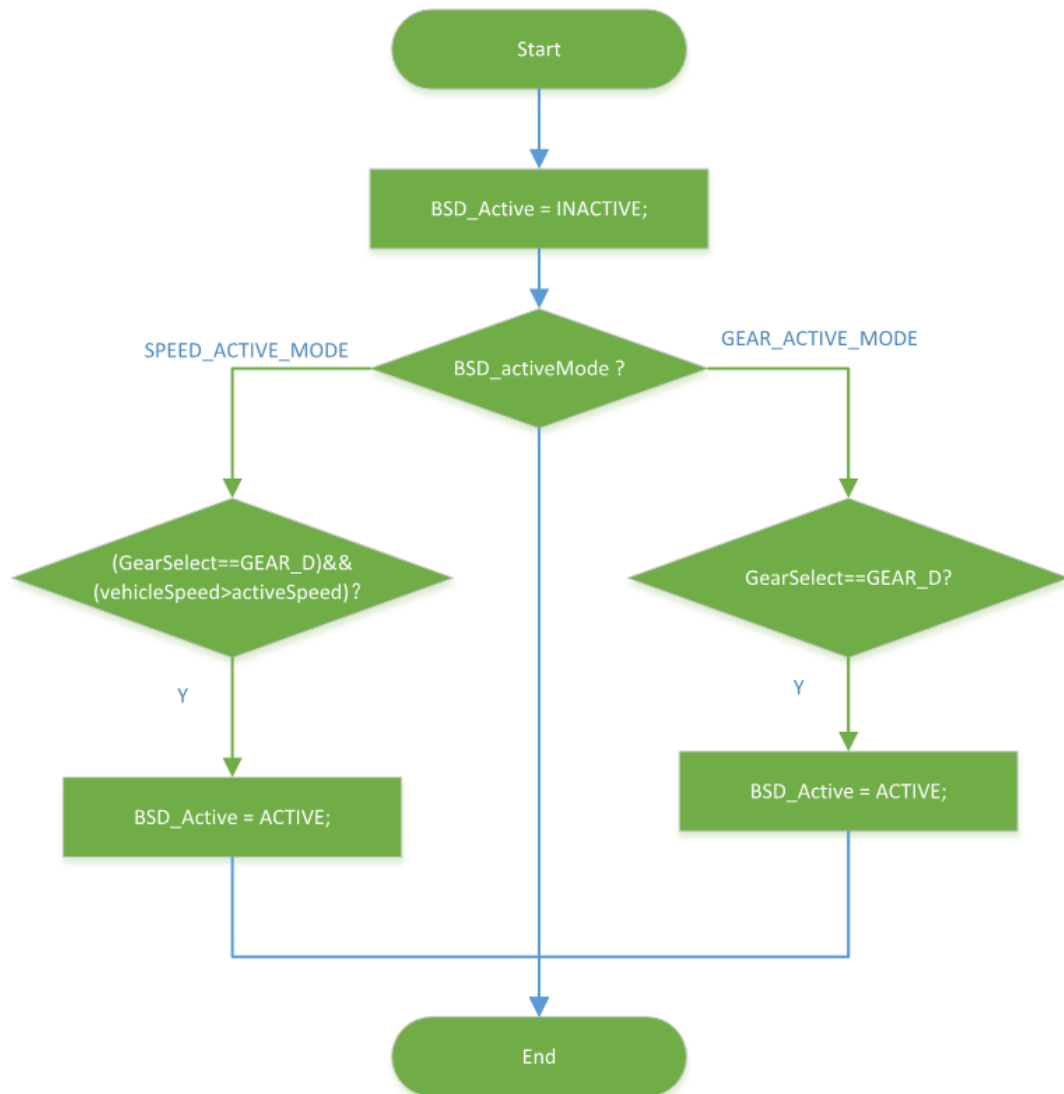
Vehicle_Signal_t：车辆信号标志，例如LCA使能，左右灯，前后左右门

TRK_ObjList_t： Target list of tracking output.

BSD_RUN

BSD_ActiveStateUpdate

```mermaid
flowchart TD
    Start[Start] --> A[BSD_Active = INACTIVE;]
    A --> B{BSD_activeMode ?}
    B -->|SPEED_ACTIVE_MODE| C{"(GearSelect==GEAR_D)&&
(vehicleSpeed>activeSpeed)?"}
    B -->|GEAR_ACTIVE_MODE| D{GearSelect==GEAR_D?}
    C -->|Y| E[BSD_Active = ACTIVE;]
    D -->|Y| F[BSD_Active = ACTIVE;]
    E --> End[End]
    F --> End
```

实现功能：

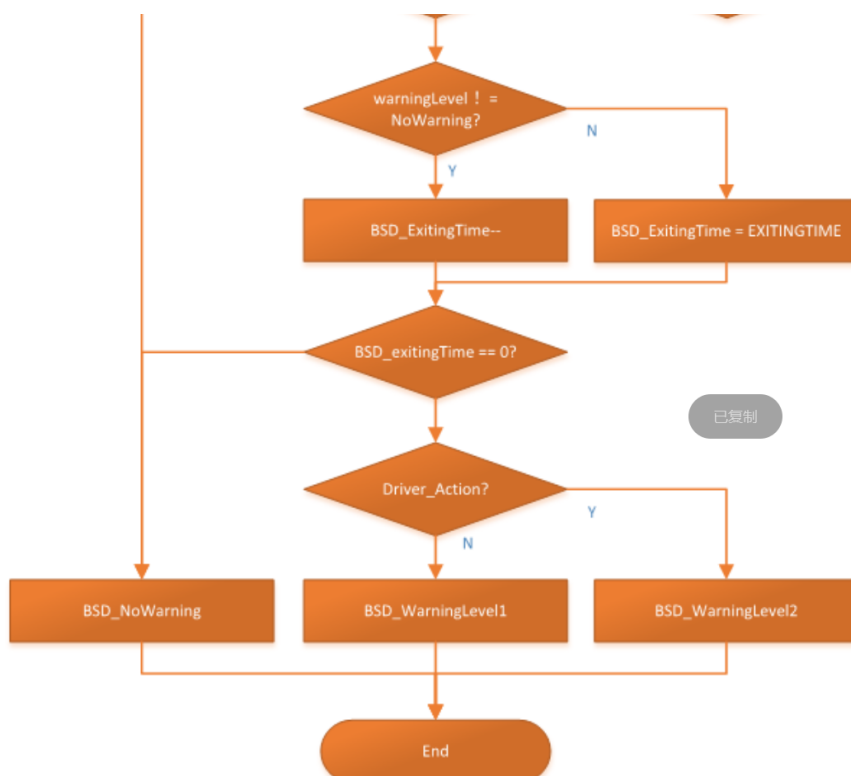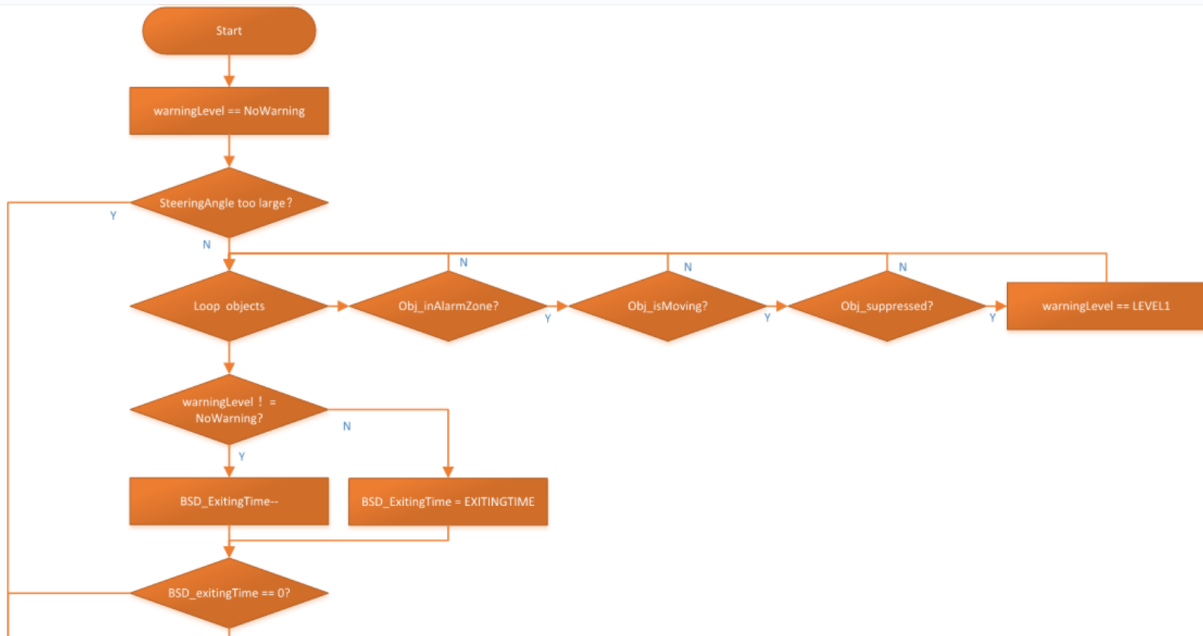BSD主控制器根据行车速度或者挡位来开启和关闭系统

> gear模式：当选择挡位与gear_D匹配
>
> speed模式：当车速大于某个设定值（如15km/h）时并且左后门关闭？？激活（模式未用到）

GB-B BSD Activation Conditions / BSD 激活条件 BSD function will be active under the following conditions:

> 1. Radar Power on. / 雷达上电
>
> 2. System available. /系统可用
>
> 3. BSD function enabled. / BSD 功能使能
>
> 4. Gear D. / 挡位是 D 挡

> 5. The vehicle drives above activation speed (15km/h). /车辆速度在激活速度
>   (15km/h)以上

BSD_WarningLevelUpdate


```c
if (vehicle->SteeringAngle >= 30)
  {
      for (idx = 0u; idx < MAX_TRACK_OBJECT_NUM; idx++)
      {
          ID_Of_Obj = objlist->Object[idx].Obj_ID > 63u ? 63u : objlist-
>Object[idx].Obj_ID;
```

```
            handle->ObjState[ID_Of_Obj].inAlarmZone = 0u;
            handle->ObjState[ID_Of_Obj].isMoving = 0u;
            handle->ObjState[ID_Of_Obj].isWarning = 0u;
            handle->ObjState[ID_Of_Obj].suppressionTime = 0u;
            handle->ObjState[ID_Of_Obj].suppressed = 0u;
        }
    handle->exitingTime = 0u;
}
```

转向角大于30，不警报？不存在盲点？

车的转向角度与车的实际大小，运载低盘有关系，一般汽车的最大转向角在30度到40度之间，面包车的转向角都基本为30～34，轿车SUV等车型为40。