**DREAM EPIC**

**Robot specifications**

1. Chassis – 10x12 x1 cm
2. Wheel – radius 2cm, thickness-1cm
3. Ball support – 0.75 cm
4. Distance Sensor

* Front left 2: range - 15 cm
* Front left 1: range - 10cm
* Front middle: range - 10cm
* Front right1: range - 10cm
* Front right2: range - 15cm
* Top: range - 40cm
* Bottom: range - 40cm

1. Camera
2. Cylinder - radius 1cm, height-3cm

**Front distance IR sensors**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Right2(r\_2) | Right1(r\_1) | Middle(C\_0) | Left1(l\_1) | Left2(l\_2) |
| Junction and Patch identify |  |  |  |  |  |
| Move forward |  |  |  |  |  |
| Left 90’ turn |  |  |  |  |  |
| Right 90’ turn |  |  |  |  |  |
| Curve left move |  |  |  |  |  |
| Curve right move |  |  |  |  |  |

**Sensors above the chassis**

|  |  |
| --- | --- |
| **Tall wall** | |
| Top sensor |  |
| Bottom sensor |  |
| **short wall** | |
| Top sensor |  |
| Bottom sensor |  |

CHECKING THE STEP NUMBER

STEP 4

STEP 5

STEP 6

STEP 1

STEP 3

STEP 2

IDENTIFYING THE START

RETURNING COLOR OF PETCH USING CAMERA SENSOR…

DECIDE ON N VALUE AFTER DISTANCE AND HIGHT DETECTION OF PILLERS

TURNING LEFT IN JUCTION 1

TURNING TO THE DIRECTION ACCORDING TO THE N VALUE.

END POINT DETECTION AND END THE STIMULATION

CURVE LINE FOLLWING

LEFT/RIGHT VALUES OPPOSE WITH EACH OTHER

LEFT MIDDLE/RIGHT MIDDLE SENSOR VALUE DIFFER WITH CENTER ONE

LEFT/ RIGHT TURN

IF ALL FIVE SENSOR VALUES ARE SAME

MOVE FORWARD

Main

GETTING ALL IR-SENSOR READING

**Functions**

**1. stop:** set the robot liner velocity to zero.

**2. turn\_90**: Turn orthogonally in the bends and junction to the given direction (left/right).

**3. piller\_detecting:** measure the distance of pillars from center and find the wall tall or short and value of the N from sensor readings and f**ind value** function.

**4. colour\_detecting**: find the color of patch with the help of camera sensor reading.

**5.forward\_petch**: keep track the steps and execute the correct functions in every steps.

**6.move\_center:** move forward up to center of the chassis going to the turning point or center of the patch, to do the task or turning orthogonally.

**7**.**wall\_flowing**: turn the front edge distance sensors in 90 degree. And follow the wall the with the sensor readings.