

# **Algorithme**

ILI6 et IMP29 **Groupe B** 



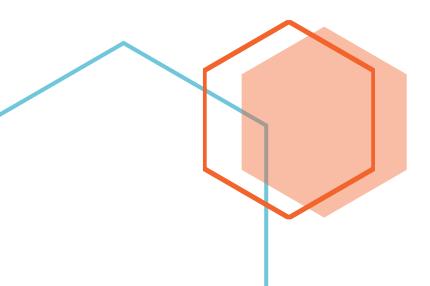


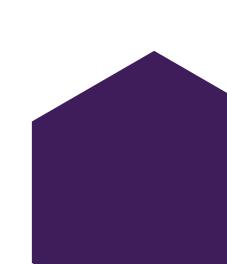


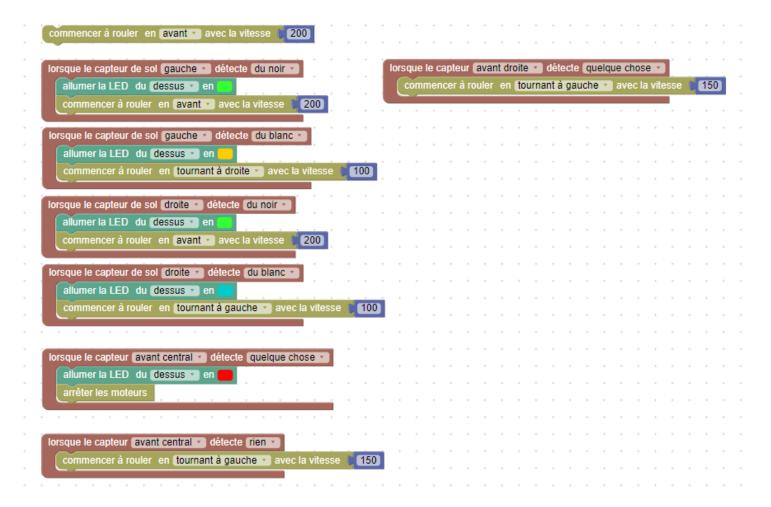


En partenariat avec









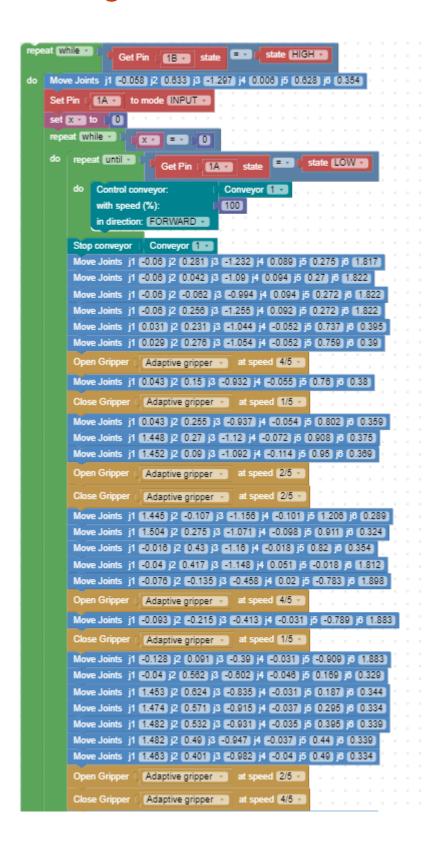
Algorithme sur robot mobile Thymio

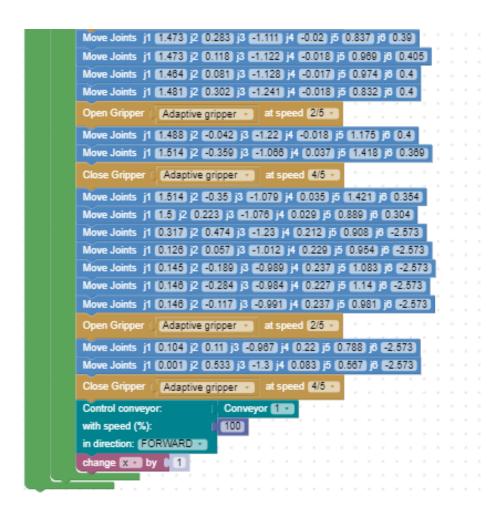
```
at ( 10
                  to mode [INPUT]
                  to mode [INPUT]
Set Pin ( 28 to mode INPUT :
Move Joints j1 (0.03) j2 (0.55) j3 (1.088) j4 (1.327) j5 (1.287) j8 (0.088)
set x to 0
repeat while *
                                                  state (LOW -
                 Get Pin ( 2A - state = -
          Move Joints j1 (2.507) j2 (-0.488) j3 (0.089) j4 (1.338) j5 (1.355) j6 (-0.628)
           Open Gripper Large gripper at speed 2/5 a
          Move Joints j1 (2.529) j2 (-0.701) j3 (-0.085) j4 (1.365) j5 (0.992) j6 (-0.628)
           Close Gripper | Large gripper | at speed (2/5 *
          Move Joints j1 (2.512) j2 (0.4) j3 (0.01) j4 (1.385) j5 (1.238) j6 (-0.648)
          Move Joints j1 (0.92) j2 (-0.258) j3 (-0.028) j4 (1.359) j5 (1.332) j6 (-0.633)
          Move Joints j1 =0.681 j2 =0.215 j3 =0.168 j4 =1.358 j5 =0.975 j6 =0.698
          Move Joints j1 =0.911 j2 =1.004 j3 (0.532 j4 1.494 j5 1.232 j6 =0.957
           Open Gripper Large gripper at speed 2/5
          Move Joints j1 (0.913) j2 (0.795) j3 (0.551) j4 (1.408) j5 (1.465) j6 (0.719)
          Move Joints j1 (0.018) j2 (0.335) j3 (0.996) j4 (1.29) j5 (1.083) j6 (0)
          repeat until
                                                             state LOW •
                              Get Pin ( 1A state = *)
          do Control conveyor:
                with speed (%):
                                            100
               in direction: FORWARD •
          Move Joints j1 61.39 j2 60.588 j3 61.141 j4 (1.551) j5 61.534 j6 (0.071)
           Open Gripper Large gripper at speed 2/5 at
           Move Joints j1 =1.384 j2 =0.716 j3 =1.07 j4 =1.551 j5 =1.6 j6 0.04
           Close Gripper Large gripper at speed 2/5
```

Partie 1

```
Move Josep 1 (SEC) P (SES) P (SES) A SECS P (SECS) P (SECS)
Move Joins | 1 (2003) P (2003) P (2003) P (2003) P (2003) P (2003) P (2003)
Move Joins | 1 (2003) P (2003) P (2003) P (2003) P (2003) P (2003)
Move Joins | 1 (2003) P (2003) P (2003) P (2003) P (2003)
                               A Gregory Clarge greport at a speed $150
   More Joints | 1 (123) | 1 (123) | 1 (123) | 2 (123) | 2 (123) | 2 (123) | 2 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 (123) | 3 
                        H (0003) P (0003) P (0003) P (0003) P (0003) P (0003)
           COLD & COLD & COLD & COLD & COLD & COLD & COLD
                            OF A COST OF COURS IN COURSE OF COUR
 Move Joints It GEOR P (2013) P GEOR P (2013)
More Joints |1 (200) |2 (2003) |3 (2003) |4 (2003) |5 (2003) |5 (2003)
 Move Joints |1 Childs P Edicits P Edicits |4 Edicit |6 Edicits |4 Edicit
   More John J (1939) 9 (1939) 9 (1939) 9 (1939) 1 (1939) 9 (1939)
                  ne John (1 (65%) p (65%) p (65%) p (65%) p (65%) p (65%)
   More Joints | 1 Chill | P Chill | P Chill | 1 
Move Joints |1 (00012) /2 (0010) /3 (00103) /4 (0200) /5 (0000) /6 (0000)
 More John Jt (1995) P (1993) P (1995) H (1995) P (1995) P (1995)
 Move Johns |1 ($5000) |2 ($0000) |2 ($5000) |4 ($1000) |5 ($1500) |2 ($1000)
             000 a (1818) a (1818) h (1818) a (1818) a (1818) h (1818) a
    More Joints It GEORG & COOKS O GEORG & COOKS OF COLLEGE
 Move Joints |1 (2002) |2 (2003) |4 (2003) |4 (2003) |4 (2003) |4 (2003)
                       MARKS IN COMES IN CASSES IN CASSES IN COMES IN C
                          80003 N (60012 N (60002 N (60002 N (600) N emol. m
   1000 R EFERS & (1003) H ESSES Q (1005) Q (100) II atrick wolk
                                                             MIN TO COME IN COMES 
                                                                -- (1 E000) p (100) p (100) p (100) p (100) p
```

Partie 2





```
set REBUSINT * to Pose x 0.05 y 0.111 z 0.241 roll 0.13 pitch 0.021 yaw 1.06
set ATTENTE to
                 Pose x 0.12 y -0.075 z 0.248 roll 0.135 pitch 0.095 yaw -0.658
                Pose x 0.28 y -0.16 z 0.169 roll 0.003 pitch 0.019 yaw -0.526
               Pose x -0.144 y 0.238 z 0.236 roll -0.125 pitch 1.262 yaw 1.919
set visioncarton v to Pose x 0.014 y -0.226 z 0.186 roll 1.2 pitch 1.497 yaw -0.019
set approchecarton v to Pose x 0.003 y -0.148 z 0.28 roll 0.103 pitch -0.025 yaw -1.622
               Pose x 0.013 y -0.187 z 0.222 roll 0.055 pitch 0.051 yaw -1.613
                                   state LOW •
                 2A state
     repeat while *
                                             state (HIGH *
     do set BLEU to false
         set ROUGE to false
        set VERT v to false v
         repeat while *
                                                 state (HIGH)
                        Get Pin
         do Control conveyor:
            with speed (%):
                                  100
            in direction: FORWARD *
        Wait for
                      Conveyor 1
                                           state (LOW)
                  Get Pin (2A state
             Move pose ATTENTE •
            Activate learning mode
        🧔 if
                                           state LOW •
                          2A state
                         Large gripper v at speed 2/5 v
             Activate learning mode
                  Get Pin (2A state
```

```
Get Pin 2A state state LOW
    Move Pose x (0.27) y -0.113 z (0.246) roll (0.036) pitch -0.05 yaw -0.46
                             state LOW
        Get Pin 2A state
     Close Gripper Large gripper at speed 2/5 at
else Activate learning mode
         Get Pin 2A state State LOW
do Move Pose x 0.27 y -0.113 z 0.31 roll 0.036 pitch -0.05 yaw -0.46
else Activate learning mode
Get Pin (2A) state
                             = * state LOW *
do Move pose approchecarton
else Activate learning mode
                                   state LOW
   Move pose écriture
else Activate learning mode
repeat 6 times
do o if Get Pin 2A state
    do Move Pose x 0.011 y -0.185 z 0.222 roll 0.055 pitch 0.051 yaw -1.613
    else Activate learning mode
    Get Pin (2A v state = v) state LOW v
        Move Pose x 0.026 y -0.185 z 0.222 roll 0.055 pitch 0.051 yaw -1.613
    else Activate learning mode
```

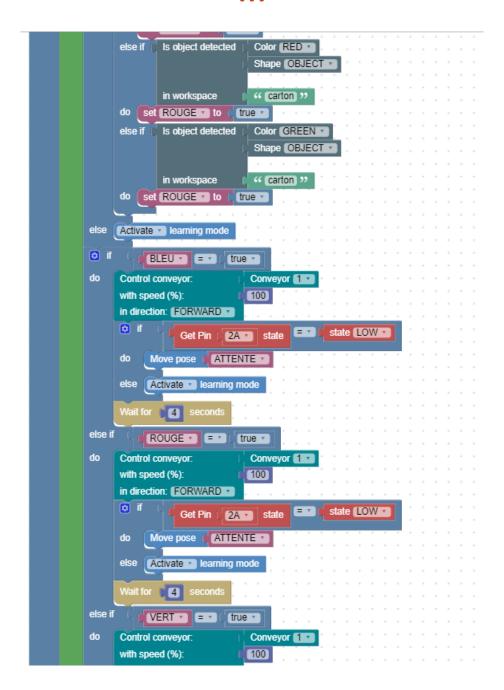
```
Get Pin (2A v state = v) state (LOW v
        Move Pose x (0.026) y (-0.17) z (0.222) roll (0.055) pitch (0.051) yaw (-1.613)
    else Activate learning mode
            Get Pin (2A v state = v) state (LOW v
    do Move Pose x 0.011 y -0.17 z 0.222 roll 0.055 pitch 0.051 yaw -1.613
    else Activate learning mode
repeat 6 times
do o if Get Pin 2A state state LOW
    do Move Pose x (0.012) y -0.184) z (0.222) roll (0.055) pitch (0.051) yaw (-1.613)
    else Activate learning mode
    Get Pin (2A v state = v) state LOW v
    do Move Pose x (0.025 y -0.184) z (0.222) roll (0.055) pitch (0.051) yaw -1.613
    else Activate learning mode
    🔯 if
            Get Pin (2A v state = v state LOW v
    do Move Pose x (0.025 y -0.171) z (0.222 roll (0.055) pitch (0.051) yaw -1.613
    else Activate learning mode
    ⊚ if Get Pin (2A → state = √) state LOW ▼
    do Move Pose x (0.012) y -0.171 z (0.222) roll (0.055) pitch (0.051) yaw -1.613
    else Activate learning mode
repeat 6 times
do o if Get Pin (2A v state
                                           state LOW -
    do Move Pose x (0.013) y -0.183 z (0.222) roll (0.055) pitch (0.051) yaw -1.613
```

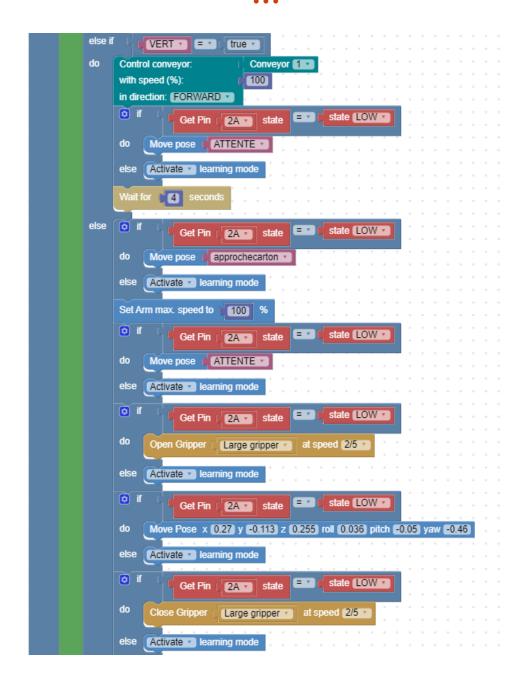
else Activate learning mode Get Pin ( 2A v state = v state LOW v Move Pose x 0.024 y -0.183 z 0.222 roll 0.055 pitch 0.051 yaw -1.613 else Activate learning mode Get Pin (2A ) state State LOW do Move Pose x 0.024 y -0.172 z 0.222 roll (0.055) pitch (0.051) yaw -1.613 else Activate learning mode Get Pin (2A v state state LOW v Move Pose x (0.013) y -0.172 z (0.222) roll (0.055) pitch (0.051) yaw -1.613 else Activate learning mode repeat 6 times do o if Get Pin (2A) state state LOW do Move Pose x (0.014) y (-0.182) z (0.222) roll (0.055) pitch (0.051) yaw (-1.613) else Activate learning mode Get Pin (2A v state state LOW v do Move Pose x 0.023 y -0.182 z 0.222 roll 0.055 pitch 0.051 yaw -1.613 else Activate learning mode Get Pin ( 2A 🔻 state = 💴 state LOW 🖜 Move Pose x 0.023 y -0.173 z 0.222 roll 0.055 pitch 0.051 yaw -1.613 else Activate learning mode

Get Pin (2A v state state LOW v

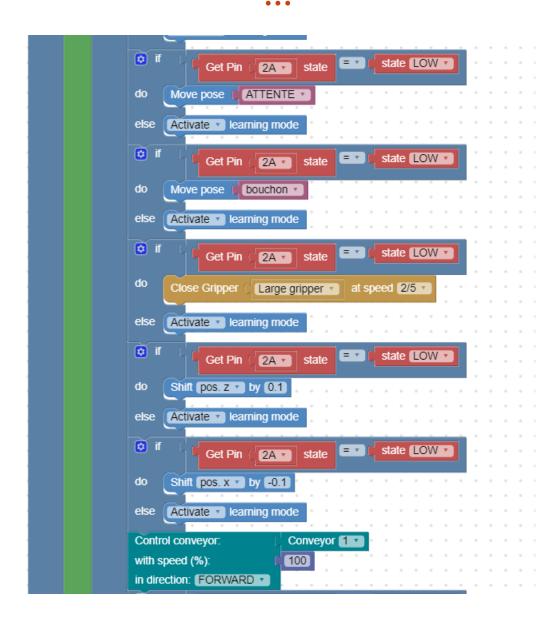
do Move Pose x 0.014 y -0.173 z 0.222 roll 0.055 pitch 0.051 yaw -1.613

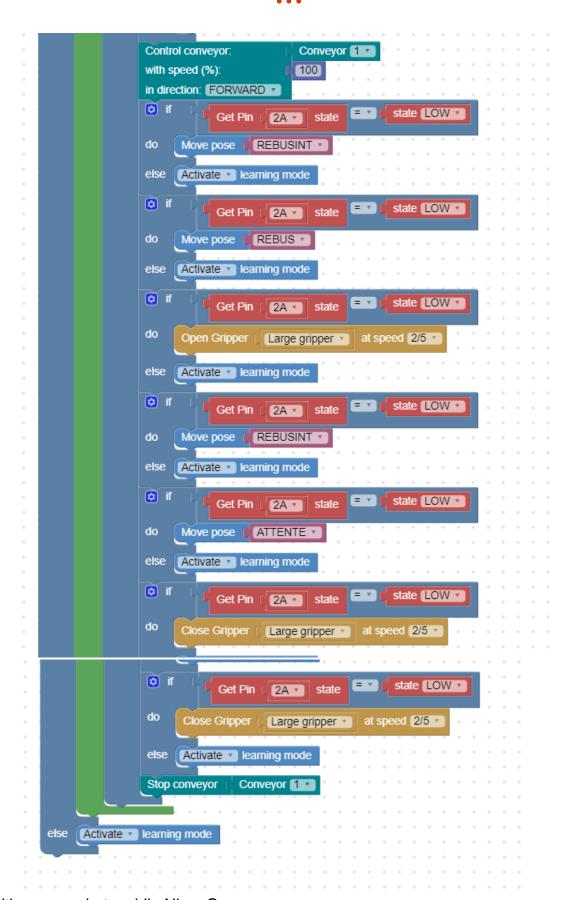
```
Get Pin 2A state State LOW
    Shift (pos. z v by 0.2)
    Activate learning mode
🔯 if
      Get Pin 2A state
    Move Pose x (0.27) y -0.105 z (0.35) roll (0.036) pitch -0.05 yaw -0.46
    Activate learning mode
🔯 if
                                    state LOW -
          Get Pin 2A state
    Move Pose x (0.275) y (-0.095) z (0.255) roll (0.036) pitch (-0.05) yaw (-0.46)
else Activate learning mode
if Get Pin 2A state
     Open Gripper Large gripper at speed 2/5
else Activate learning mode
Set Arm max. speed to 30 %
      Get Pin (2A) state
     Move pose approchecarton
    Activate learning mode
Get Pin (2A) state
     Move pose visioncarton •
     Wait for [2] seconds
                             Color BLUE -
                             Shape OBJECT •
                           " (carton) "
             in workspace
     do set BLEU to true
```





```
state (LOW -
      Get Pin 2A state
    Move Pose x (0.27) y (-0.113) z (0.31) roll (0.036) pitch (-0.05) yaw (-0.46)
🔯 if
                                   state LOW •
      Get Pin 2A state
    Shift pos. z v by 0.2
    Activate learning mode
🤨 if
     Get Pin (2A v state
    Shift pos. x v by -0.1
🔯 if
                                   state LOW *
     Get Pin 2A state
    Move pose REBUSINT
else Activate learning mode
🔯 if
     Get Pin 2A state
   Move pose REBUS •
else Activate learning mode
🤨 if
                                   state LOW
          Get Pin (2A v state
    Open Gripper Large gripper
                              at speed (2/5)
   Activate V learning mode
🔯 if
    Get Pin (2A ) state
                                   state LOW
    Activate learning mode
```





Algorithme sur robot mobile Niryo One

```
repeat while * | true *
    set (Position Initiale * to
                           Pose x 0.23 y -0.044 z 0.4 roll -0.072 pitch 0.703 yaw -0.194
                          Pose x 0.222 y 0.047 z 0.2 roll 3.093 pitch 0 yaw -0.586
    set Repose Stylo v to
                         Pose x 0.215 y -0.06 z 0.21 roll 0.114 pitch -0.031 yaw 0.321
                             Pose x 0.222 y -0.005 z 0.14 roll 3.093 pitch 0 yaw -0.588
                            Pose x 0.225 y 0.045 z 0.28 roll (3.093 pitch (0 yaw -0.588)
                    Pose x (0.33) y (-0.034) z (0.341) roll (2.956) pitch (0.112) yaw (-0.93)
    Set Pin 11A
    Move pose Position Initiale
    repeat until V
                                                state LOW
        Control conveyor:
                               100
        with speed (%):
        in direction: FORWARD *
    Pick from pose Position Stylo
    Set Arm max. speed to 30 %
    Shift pos. z v by 0.2
    Move pose Repose Stylo 🔻
    Shift pos. z v by -0.025
    Open Gripper Large gripper at speed 2/5
    Shift pos. z v by 0.1
    Move pose Position Bouchon
                 Large gripper
    Shift pos. z v by 0.2
    Place from pose Repose Bouchon
    Shift pos. z v by 0.1
    Move pose Appui *
    Set Arm max. speed to 5
    Shift pos. z v by -0.08
    Set Arm max. speed to 100 %
    Shift pos. z v by 0.2
                            Conveyor 1
                           100
    with speed (%):
    in direction: FORWARD
     Nait for 10
```

```
set Position Scan to Pose x 0.22 y 0 z 0.38 roll 1.572 pitch 1.477 yaw 1.5
set Bac Bleu 1 to Pose x 0.052 y 0.411 z 0.216 roll 0.01 pitch 0.964 yaw 1.562
set Bac Rouge v to Pose x -0.077 y 0.379 z 0.218 roll 0.62 pitch 1.24 yaw 2.424
set Bac Vert 1 to Pose x 2.24 y 0.301 z 0.205 roll 0.89 pitch 1.2 yaw 2.76
set Position Stylo 1 to Pose x 0.19 y 0 z 0.25 roll 0.038 pitch 0.342 yaw 0.099
set Postion support 10 Pose x 0.255 y -0.05 z 0.23 roll 0.1 pitch 1.4 yaw 0
set Extraction support to Pose x -0.18 y -0.2 z 0.25 roll 0.472 pitch 1.134 yaw -2
Set Pin 1A to mode INPUT
Set Pin 2A to mode INPUT
   repeat (Until 12) (XXXII EX) (1)
   do 0 if Get Pin 2A state state state
        do treak out of loop
        if Is object detected Color RED
                                Shape OBJECT
                                 (Convoyeur Workspace)
        do set (COURTS to 1)
        if Is object detected Color BLUE
                                Shape OBJECT .
                                 (Convoyeur Workspace) 33
        do set Colors to 2
        if Is object detected
                                Color GREEN
                                Shape (OBJECT ...
                                 (Convoyeur Workspace)
do set Color to 3
repeat while true to 6
do Deactivate Rearning mode
    Move pose Position Scan
       n Gripper Adaptive gripper at speed 5/5 v
   Get Pin (2A ) state LOW ·
    do break out v of loop
                            Conveyor 1
       with speed (%):
                           100
       in direction: FORWARD 7
       Get Pin 2A state LOW
       do Stop conveyor Conveyor
          break out v of loop
   © if Get Pin (2A ▼ state = ▼ state LOW ▼
   do break out of loop
    set Color to 0
```

```
torsque le capteur de soi gauche : détecte (du noir : détecte (du noir : de la vitesse : 200)

torsque le capteur de soi gauche : détecte (du noir : de la vitesse : 200)

torsque le capteur de soi gauche : détecte (du planc : détecte (du planc : de la vitesse : 200)

torsque le capteur de soi gauche : détecte (du planc : de la vitesse : 200)

torsque le capteur de soi (doite : de la vitesse : 200)

torsque le capteur de soi (doite : détecte (du noir : summer la LED du Gessus : en commencer à rouler en avent : sevec la vitesse : 200)

torsque le capteur de soi (doite : de la vitesse : 200)

torsque le capteur de soi (doite : de la vitesse : 200)

torsque le capteur de soi (doite : de la vitesse : 200)

torsque le capteur de soi (doite : de la vitesse : 200)

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torsque le capteur (de soi (doite : de la vitesse : 200)

torsque le capteur (de soi (doite : de la vitesse : 200)
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