# Main [OB1]

| Main Properties | | | | | |
|---|---|---|---|---|---|
| **General** | | | | | |
| **Name** | Main | **Number** | 1 | **Type** | OB |
| **Language** | LAD | **Numbering** | Automatic | | |
| **Information** | | | | | |
| **Title** | "Main Program Sweep (Cycle)" | **Author** | | **Comment** | |
| **Family** | | **Version** | 0.1 | **User-defined ID** | |

| Name | Data type | Default value | Supervision | Comment |
|---|---|---|---|---|
| ▼ Input | | | | |
|     Initial_Call | Bool | | | Initial call of this OB |
|     Remanence | Bool | | | =True, if remanent data are available |
|   Temp | | | | |
|   Constant | | | | |

**Network 1:**

## Feeding [FC2]

| Feeding Properties | | | | | | |
|---|---|---|---|---|---|---|
| **General** | | | | | | |
| **Name** | Feeding | **Number** | 2 | **Type** | FC | |
| **Language** | LAD | **Numbering** | Automatic | | | |
| **Information** | | | | | | |
| **Title** | | **Author** | | **Comment** | | |
| **Family** | | **Version** | 0.1 | **User-defined ID** | | |

| Name | Data type | Default value | Supervi-sion | Comment |
|---|---|---|---|---|
| Input | | | | |
| Output | | | | |
| InOut | | | | |
| Temp | | | | |
| Constant | | | | |
| ▼ Return | | | | |
| Feeding | Void | | | |

## Network 1:



## Network 2:



## Network 3:

%I3.7
"Start_Button"

%M0.0
"On_Tag"

SR

S          Q

%I3.6
"Stop_Button"

R1
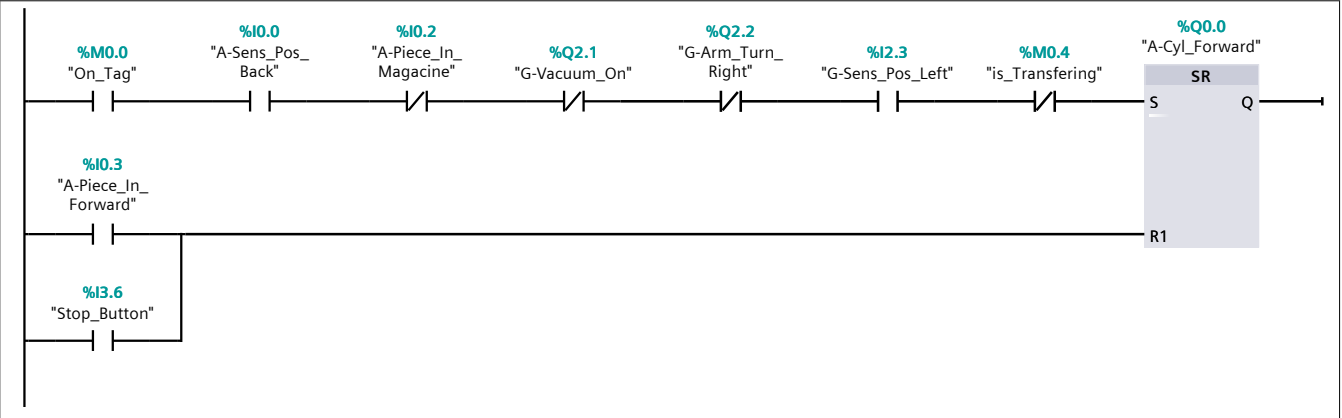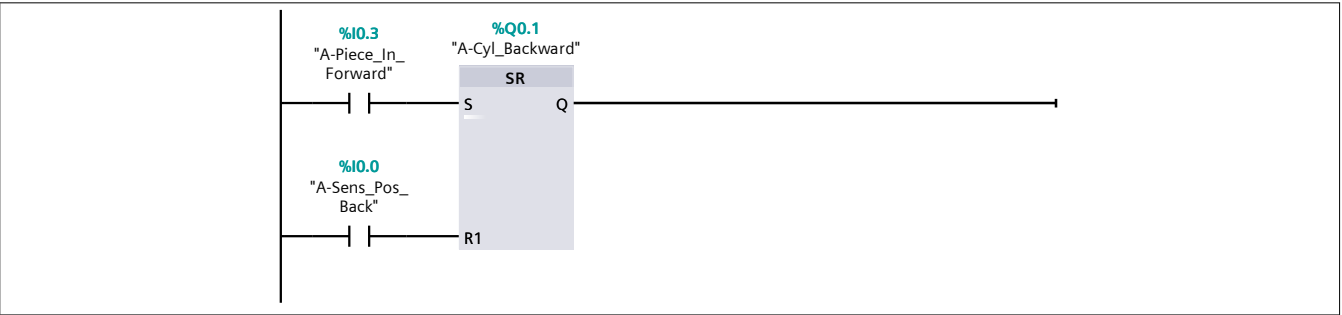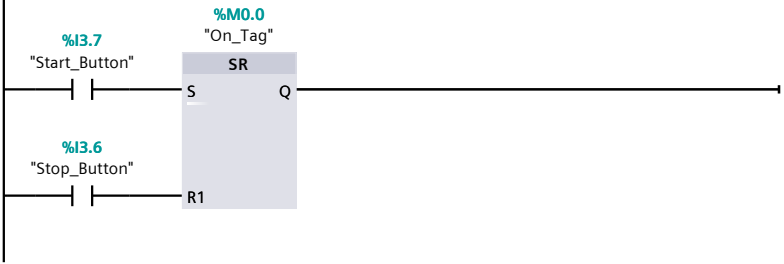
# Identification [FC4]

| Identification Properties | | | | | |
|---|---|---|---|---|---|
| **General** | | | | | |
| **Name** | Identification | **Number** | 4 | **Type** | FC |
| **Language** | LAD | **Numbering** | Automatic | | |
| **Information** | | | | | |
| **Title** | | **Author** | | **Comment** | |
| **Family** | | **Version** | 0.1 | **User-defined ID** | |

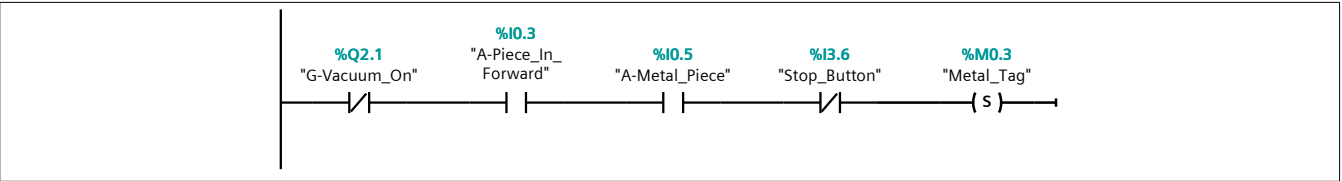| Name | Data type | Default value | Supervision | Comment |
|---|---|---|---|---|
| Input | | | | |
| Output | | | | |
| InOut | | | | |
| Temp | | | | |
| Constant | | | | |
| ▼ Return | | | | |
| Identification | Void | | | |

## Network 1: Set White_Tag for White piece
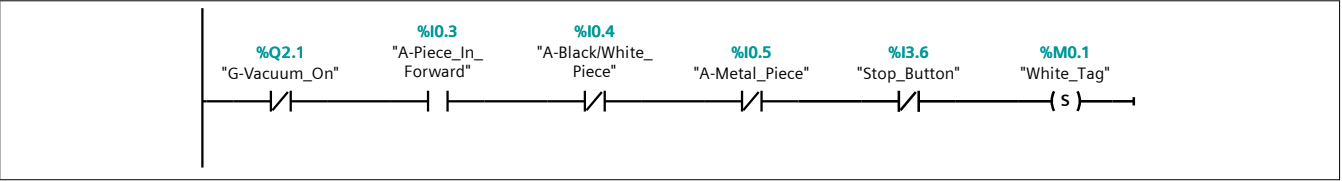


## Network 2: Set Black_Tag for Black Piece
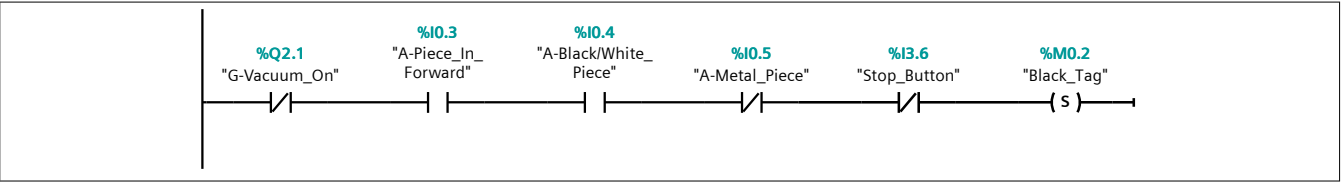


## Network 3: Set Metal_Tag for metallic piece



## Network 4: Reset tag

```
         %Q2.1          %M1.1           %M0.2           %M0.1           %M0.3
      "G-Vacuum_On"  "is_at_Dropoff_  "Black_Tag"     "White_Tag"     "Metal_Tag"
                        Location"
         ┤/├            ┤ ├            ─( R )─         ─( R )─         ─( R )─
```

# Initial [FC3]

| Initial Properties | | | | | |
|---|---|---|---|---|---|
| **General** | | | | | |
| **Name** | Initial | **Number** | 3 | **Type** | FC |
| **Language** | LAD | **Numbering** | Automatic | | |
| **Information** | | | | | |
| **Title** | | **Author** | | **Comment** | |
| **Family** | | **Version** | 0.1 | **User-defined ID** | |

| Name | Data type | Default value | Supervision | Comment |
|---|---|---|---|---|
| Input | | | | |
| Output | | | | |
| InOut | | | | |
| Temp | | | | |
| Constant | | | | |
| ▼ Return | | | | |
| Initial | Void | | | |

## Network 1:

```
        %I3.7                              %Q0.1
     "Start_Button"                   "A-Cyl_Backward"
        ┤ ├                              ( )
```
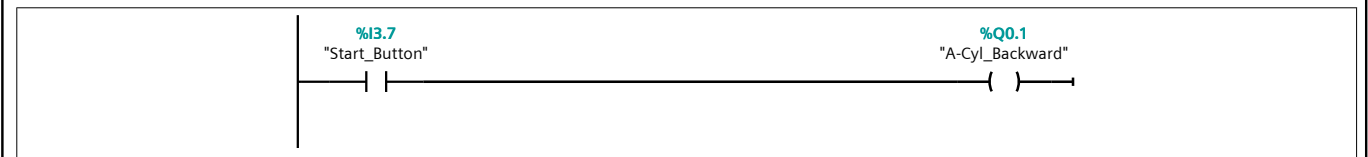
# Sorting [FC1]

| Sorting Properties | | | | | |
|---|---|---|---|---|---|
| **General** | | | | | |
| **Name** | Sorting | **Number** | 1 | **Type** | FC |
| **Language** | LAD | **Numbering** | Automatic | | |
| **Information** | | | | | |
| **Title** | | **Author** | | **Comment** | |
| **Family** | | **Version** | 0.1 | **User-defined ID** | |

| Name | Data type | Default value | Supervi-sion | Comment |
|---|---|---|---|---|
| Input | | | | |
| Output | | | | |
| InOut | | | | |
| Temp | | | | |
| Constant | | | | |
| ▼ Return | | | | |
| Sorting | Void | | | |

## Network 1: Position control

**%DB2**
"IEC_Counter_0_DB"

**%M1.1**
"is_at_Dropoff_Location"

| %M0.2 "Black_Tag" | %I2.1 "G-Sens_Impuls_10°" | CTU Int | |
|---|---|---|---|

CU — Q
CV — ...

**%Q2.2**
"G-Arm_Turn_Right"

R
19 — PV

SR
S    Q

**%DB1**
"IEC_Counter_0_DB_1"

| %M0.3 "Metal_Tag" | %I2.1 "G-Sens_Impuls_10°" | CTU Int | |
|---|---|---|---|

CU — Q
CV — ...

**%Q2.2**
"G-Arm_Turn_Right"

R
22 — PV

**%DB3**
"IEC_Counter_0_DB_2"

| %M0.1 "White_Tag" | %I2.1 "G-Sens_Impuls_10°" | CTU Int | |
|---|---|---|---|

CU — Q
CV — ...

**%Q2.2**
"G-Arm_Turn_Right"

R
25 — PV

**%I3.6**
"Stop_Button"

R1

**%Q2.1**
"G-Vacuum_On"

## Network 2: Arm goes right

**%DB8**
"IEC_Timer_0_DB_2"

**%Q2.2**
"G-Arm_Turn_Right"

| %I2.3 "G-Sens_Pos_Left" | %Q2.1 "G-Vacuum_On" | TON Time | |
|---|---|---|---|

IN — Q
T#2000ms — PT    ET — ...

SR
S    Q

**%M1.1**
"is_at_Dropoff_Location"

R1

## Network 3: G arm left



## Network 4: G down



## Network 5: G vacuum on

```
      %Q2.0              %I2.3              %I0.3           %Q2.1
   "G-Down_On"      "G-Sens_Pos_Left"  "A-Piece_In_     "G-Vacuum_On"
                                         Forward"             SR
      ─┤ ├─             ─┤ ├─             ─┤ ├──────────S         Q ──────────
                                                                         │
                              %DB6
                           "IEC_Timer_0_
                              DB_3"
      %M1.1                   TON
   "is_at_Dropoff_           Time
     Location"
      ─┤ ├────────────────IN       Q ──────────────────────R1
             T#1000ms ──── PT      ET ─── ...
```

## Network 6: Transfering

```
      %Q2.1              %I3.6              %Q2.2           %M0.4
   "G-Vacuum_On"     "Stop_Button"    "G-Arm_Turn_     "is_Transfering"
                                         Right"              SR
      ─┤ ├─             ─┤/├─             ─┤ ├──────────S         Q ──────────

      %I3.6
   "Stop_Button"
      ─┤ ├────────┐                                     R1
                  │
      %I2.3       │
   "G-Sens_Pos_Left"
      ─┤ ├────────┘
```
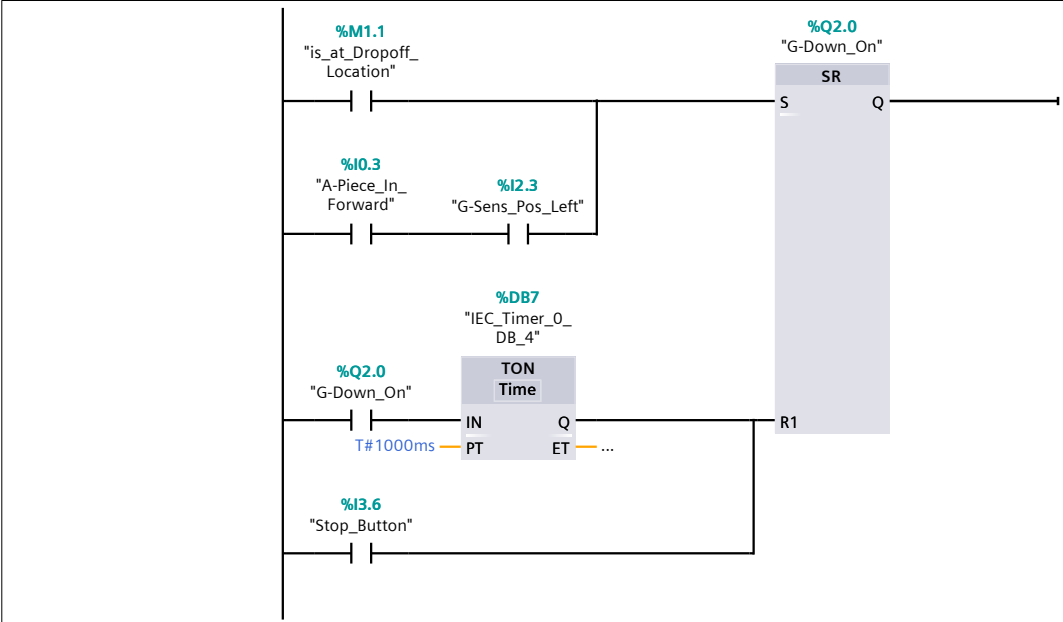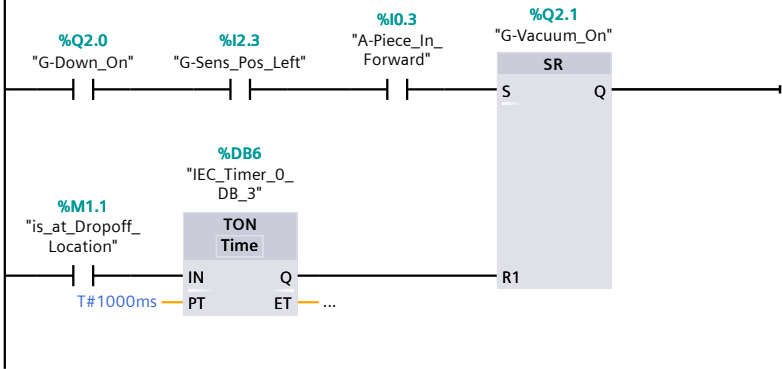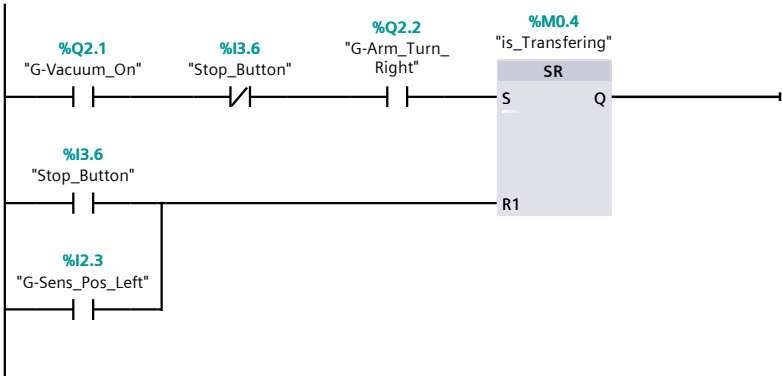
## Network 7: 1 cycle of sorting

```
      %Q2.2              %M1.2
   "G-Arm_Turn_       "is_Sorting"
     Right"               SR
      ─┤ ├──────────────S         Q ──────────────────────────────────
                         
      %Q2.2
   "G-Arm_Turn_
     Right"
      ─┤/├──────────────R1
```