

<!--

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-->

<robot name="robot1">

<link name="base_link">

<visual>

<geometry>

<box size="0.5 0.5 0.01"/>

</geometry>

<material name="black">

<color rgba="0 0 0 1"/>

</material>

<origin xyz="0 0 0.005"/>

</visual>

</link>

<!--FIRST LINK -->

<link name="link1">

<visual>

<geometry>

<cylinder length="0.1765" radius="0.1"/>

</geometry>

<material name="grey">

<color rgba="0.3 0.3 0.3 1"/>

</material>

<origin xyz="0 0 0.0883"/>

</visual>

```
</link>
```

```
<joint name="L1" type="revolute">
```

```
  <parent link="base_link"/>
```

```
  <child link="link1"/>
```

```
  <origin xyz="0 0 0.01" rpy="0 0 0"/>
```

```
  <limit lower="-3.14" upper="3.14"/>
```

```
  <axis xyz="0 0 1"/>
```

```
</joint>
```

```
<link name="link1_pom1">
```

```
  <visual>
```

```
    <geometry>
```

```
      <cylinder length="0.2" radius="0.1"/>
```

```
    </geometry>
```

```
    <material name="grey">
```

```
      <color rgba="0.3 0.3 0.3 1"/>
```

```
    </material>
```

```
    <origin xyz="0 0 0.0883" rpy="0 -1.57 0"/>
```

```
  </visual>
```

```
</link>
```

```
<joint name="L1_pom1" type="fixed">
```

```
  <parent link="link1"/>
```

```
  <child link="link1_pom1"/>
```

```
  <origin xyz="0 0 0.0883" rpy="0 0 0"/>
```

```
  <limit lower="-20" upper="20"/>
```

```
  <axis xyz="0 1 0"/>
```

```
</joint>
```

```
<link name="link1_pom2">
```

```
<visual>
  <geometry>
    <cylinder length="0.01" radius="0.101"/>
  </geometry>
  <material name="bluee">
    <color rgba="0 0 0.8 1"/>
  </material>
  <origin xyz="0 0 0" rpy="0 0 1.57"/>
</visual>
</link>
```

```
<joint name="L1_pom2" type="fixed">
  <parent link="link1"/>
  <child link="link1_pom2"/>
  <origin xyz="0 0 0.005" rpy="0 0 0"/>
  <limit lower="-20" upper="20"/>
  <axis xyz="0 1 0"/>
</joint>
```

```
<link name="link1_pom3">
  <visual>
    <geometry>
      <cylinder length="0.01" radius="0.101"/>
    </geometry>
    <material name="bluee">
      <color rgba="0 0 0.8 1"/>
    </material>
    <origin xyz="0 0 0" rpy="0 -1.57 0"/>
  </visual>
</link>
```

```
<joint name="L1_pom3" type="fixed">
  <parent link="link1_pom1"/>
  <child link="link1_pom3"/>
  <origin xyz="-0.1 0 0.0883" rpy="0 0 0"/>
  <limit lower="-20" upper="20"/>
  <axis xyz="0 1 0"/>
</joint>
<!-- SECOND LINK -->
```

```
<link name="link2">
  <visual>
    <geometry>
      <cylinder length="0.512" radius="0.06"/>
    </geometry>
    <material name="grey">
      <color rgba="0.3 0.3 0.3 1"/>
    </material>
    <origin xyz="0 0 0.256"/>
  </visual>
</link>
```

```
<joint name="L2" type="revolute">
  <parent link="link1"/>
  <child link="link2"/>
  <origin xyz="-0.193 0 0.176" rpy="0 0 0"/>
  <limit lower="-3.14" upper="3.14"/>
  <axis xyz="-1 0 0"/>
</joint>
```

```
<link name="link2_pom1">
  <visual>
```

```
<geometry>
  <cylinder length="0.2" radius="0.1"/>
</geometry>
<material name="grey">
  <color rgba="0.3 0.3 0.3 1"/>
</material>
<origin xyz="0 0 0" rpy="0 -1.57 0"/>
</visual>
</link>

<joint name="L2_pom1" type="fixed">
  <parent link="link2"/>
  <child link="link2_pom1"/>
  <origin xyz="0 0 0" rpy="0 0 0"/>
  <limit lower="-20" upper="20"/>
  <axis xyz="0 1 0"/>
</joint>

<link name="link2_pom2">
  <visual>
    <geometry>
      <cylinder length="0.16" radius="0.08"/>
    </geometry>
    <material name="grey">
      <color rgba="0.3 0.3 0.3 1"/>
    </material>
    <origin xyz="0 0 0" rpy="0 -1.57 0"/>
  </visual>
</link>

<joint name="L2_pom2" type="fixed">
```

```
<parent link="link2"/>
<child link="link2_pom2"/>
<origin xyz="-0.0165 0 0.512" rpy="0 0 0"/>
<limit lower="-20" upper="20"/>
<axis xyz="0 1 0"/>
</joint>
```

```
<link name="link2_pom3">
<visual>
  <geometry>
    <cylinder length="0.01" radius="0.081"/>
  </geometry>
  <material name="bluee">
    <color rgba="0 0 0.8 1"/>
  </material>
  <origin xyz="0 0 0" rpy="0 -1.57 0"/>
</visual>
</link>
```

```
<joint name="L2_pom3" type="fixed">
<parent link="link2_pom2"/>
<child link="link2_pom3"/>
<origin xyz="0.08 0 0" rpy="0 0 0"/>
<limit lower="-20" upper="20"/>
<axis xyz="0 1 0"/>
</joint>
```

```
<!-- THIRD LINK -->
```

```
<link name="link3">
<visual>
```

```
<geometry>
  <cylinder length="0.363" radius="0.05"/>
</geometry>
<material name="grey">
  <color rgba="0.3 0.3 0.3 1"/>
</material>
<origin xyz="0 0 0.18"/>
</visual>
</link>
```

```
<joint name="L3" type="revolute">
  <parent link="link2"/>
  <child link="link3"/>
  <origin xyz="0.127 0 0.512" rpy="0 0 0"/>
  <limit lower="-3.14" upper="3.14"/>
  <axis xyz="-1 0 0"/>
</joint>
```

```
<link name="link3_pom1">
  <visual>
    <geometry>
      <cylinder length="0.14" radius="0.08"/>
    </geometry>
    <material name="grey">
      <color rgba="0.3 0.3 0.3 1"/>
    </material>
    <origin xyz="0.0065 0 0" rpy="0 -1.57 0"/>
  </visual>
</link>
```

```
<joint name="L3_pom1" type="fixed">
```

```
<parent link="link3"/>
<child link="link3_pom1"/>
<origin xyz="0 0 0" rpy="0 0 0"/>
<limit lower="-20" upper="20"/>
<axis xyz="0 1 0"/>
</joint>
```

```
<link name="link3_pom2">
<visual>
  <geometry>
    <cylinder length="0.14" radius="0.05"/>
  </geometry>
  <material name="grey">
    <color rgba="0.3 0.3 0.3 1"/>
  </material>
  <origin xyz="0.0065 0 0" rpy="0 -1.57 0"/>
</visual>
</link>
```

```
<joint name="L3_pom2" type="fixed">
<parent link="link3"/>
<child link="link3_pom2"/>
<origin xyz="0 0 0.363" rpy="0 0 0"/>
<limit lower="-20" upper="20"/>
<axis xyz="0 1 0"/>
</joint>
```

```
<link name="link3_pom3">
<visual>
  <geometry>
    <cylinder length="0.01" radius="0.051"/>
  </geometry>
</visual>
</link>
```



```
</geometry>
<material name="blue">
  <color rgba="0 0 0.8 1"/>
</material>
<origin xyz="-0.0635 0 0" rpy="0 -1.57 0"/>
</visual>
</link>
```

```
<joint name="L3_pom3" type="fixed">
  <parent link="link3_pom2"/>
  <child link="link3_pom3"/>
  <origin xyz="0 0 0" rpy="0 0 0"/>
  <limit lower="-20" upper="20"/>
  <axis xyz="0 1 0"/>
</joint>
```

```
<!-- FOURTH LINK -->
```

```
<link name="link4">
  <visual>
    <geometry>
      <cylinder length="0.125" radius="0.05"/>
    </geometry>
    <material name="grey">
      <color rgba="0.3 0.3 0.3 1"/>
    </material>
    <origin xyz="0 0 0.062"/>
  </visual>
</link>
```

```
<joint name="L4" type="revolute">
  <parent link="link3"/>
```

```
<child link="link4"/>
<origin xyz="-0.125 0 0.363" rpy="0 0 0"/>
<limit lower="-3.14" upper="3.14"/>
<axis xyz="-1 0 0"/>
</joint>
```

```
<link name="link4_pom1">
<visual>
<geometry>
<cylinder length="0.11" radius="0.05"/>
</geometry>
<material name="grey">
<color rgba="0.3 0.3 0.3 1"/>
</material>
<origin xyz="0.007 0 0" rpy="0 -1.57 0"/>
</visual>
</link>
```

```
<joint name="L4_pom1" type="fixed">
<parent link="link4"/>
<child link="link4_pom1"/>
<origin xyz="0 0 0" rpy="0 0 0"/>
<limit lower="-20" upper="20"/>
<axis xyz="0 1 0"/>
</joint>
```

```
<link name="link4_pom3">
<visual>
<geometry>
<cylinder length="0.06" radius="0.045"/>
</geometry>
```

```
<material name="grey">
  <color rgba="0.3 0.3 0.3 1"/>
</material>
<origin xyz="0 0 0" rpy="0 0 0"/>
</visual>
</link>
```

```
<joint name="L4_pom3" type="fixed">
  <parent link="link4"/>
  <child link="link4_pom3"/>
  <origin xyz="0 0 -0.06" rpy="0 0 0"/>
  <limit lower="-20" upper="20"/>
  <axis xyz="0 1 0"/>
</joint>
```

```
<link name="link4_pom4">
  <visual>
    <geometry>
      <cylinder length="0.01" radius="0.051"/>
    </geometry>
    <material name="bluee">
      <color rgba="0 0 0.8 1"/>
    </material>
    <origin xyz="0 0 0" rpy="0 0 0"/>
  </visual>
</link>
```

```
<joint name="L4_pom4" type="fixed">
  <parent link="link4"/>
  <child link="link4_pom4"/>
  <origin xyz="0 0 0.07" rpy="0 0 0"/>
```

```
<limit lower="-20" upper="20"/>
```

```
<axis xyz="0 1 0"/>
```

```
</joint>
```

```
<!-- FIFTH LINK -->
```

```
<link name="link5">
```

```
  <visual>
```

```
    <geometry>
```

```
      <cylinder length="0.1084" radius="0.05"/>
```

```
    </geometry>
```

```
    <material name="grey">
```

```
      <color rgba="0.3 0.3 0.3 1"/>
```

```
    </material>
```

```
    <origin xyz="-0.0542 0 0" rpy="0 1.57 0"/>
```

```
  </visual>
```

```
</link>
```

```
<joint name="L5" type="revolute">
```

```
  <parent link="link4"/>
```

```
  <child link="link5"/>
```

```
  <origin xyz="0 0 0.125" rpy="0 0 0"/>
```

```
  <limit lower="-3.14" upper="3.14"/>
```

```
  <axis xyz="0 0 1"/>
```

```
</joint>
```

```
<link name="link5_pom1">
```

```
  <visual>
```

```
    <geometry>
```

```
      <cylinder length="0.12" radius="0.05"/>
```

```
    </geometry>
```

```
<material name="grey">
  <color rgba="0.3 0.3 0.3 1"/>
</material>
```

```
  <origin xyz="0.06 0 0" rpy="0 -1.57 0"/>
</visual>
</link>
```

```
<joint name="L5_pom1" type="fixed">
  <parent link="link5"/>
  <child link="link5_pom1"/>
  <origin xyz="0 0 0" rpy="0 0 0"/>
  <limit lower="-20" upper="20"/>
  <axis xyz="0 1 0"/>
</joint>
```

```
<!-- SIXTH LINK -->
```

```
<link name="link6">
  <visual>
    <geometry>
      <cylinder length="0.03" radius="0.058"/>
    </geometry>
    <material name="bluee"/>
    <origin xyz="0 0 0" rpy="0 -1.57 0"/>
  </visual>
</link>
```

```
<joint name="L6" type="revolute">
  <parent link="link5"/>
  <child link="link6"/>
```

```
<origin xyz="-0.108 0 0" rpy="0 0 0"/>
```

```
<limit lower="-20" upper="20"/>
```

```
<axis xyz="-1 0 0"/>
```

```
</joint>
```

```
<!-- TOOL -->
```

```
<link name="tool">
```

```
<visual>
```

```
<geometry>
```

```
<box size="0.03 0.03 0.2"/>
```

```
</geometry>
```

```
<material name="black"/>
```

```
<origin xyz="0 0 0"/>
```

```
</visual>
```

```
</link>
```

```
<joint name="tool_joint" type="fixed">
```

```
<parent link="link6"/>
```

```
<child link="tool"/>
```

```
<origin xyz="-0.03 0 0" rpy="0 0 0"/>
```

```
<limit lower="-20" upper="20"/>
```

```
<axis xyz="0 1 0"/>
```

```
</joint>
```

```
<link name="tool_pom1">
```

```
<visual>
```

```
<geometry>
```

```
<box size="0.05 0.05 0.1"/>
```

```
</geometry>
```

```
<material name="black"/>
<origin xyz="0 0 0"/>
</visual>
</link>
```

```
<link name="tool_pom2">
<visual>
<geometry>
<box size="0.05 0.05 0.1"/>
</geometry>
<material name="black"/>
<origin xyz="0 0 0"/>
</visual>
</link>
```

```
<joint name="tool_pom1_joint" type="fixed">
<parent link="tool"/>
<child link="tool_pom1"/>
<origin xyz="-0.05 0 0.07" rpy="0 1.57 0"/>
<limit lower="-20" upper="20"/>
<axis xyz="0 1 0"/>
</joint>
```

```
<joint name="tool_pom2_joint" type="fixed">
<parent link="tool"/>
<child link="tool_pom2"/>
<origin xyz="-0.05 0 -0.07" rpy="0 1.57 0"/>
<limit lower="-20" upper="20"/>
<axis xyz="0 1 0"/>
</joint>
```

```
<link name="TCP">
  <visual>
    <geometry>
      <sphere radius="0.01"/>
    </geometry>

    <material name="redd">
      <color rgba="0.8 0 0 1"/>
    </material>
    <origin xyz="0 0 0"/>
  </visual>
</link>

<joint name="TCP_joint" type="fixed">
  <parent link="tool"/>
  <child link="TCP"/>
  <origin xyz="-0.09 0 0" rpy="0 0 0"/>
  <limit lower="-20" upper="20"/>
  <axis xyz="0 1 0"/>
</joint>

</robot>
```