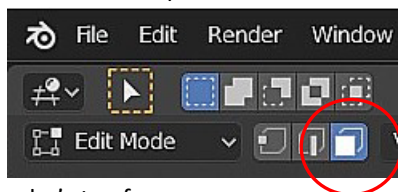


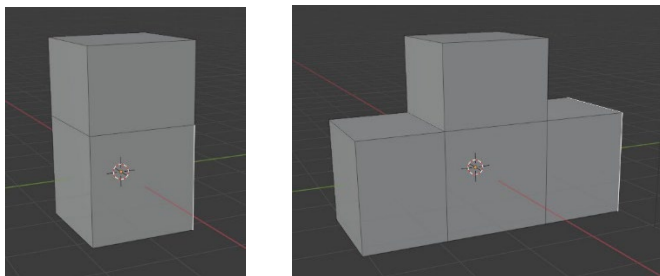
1 -- Mesh Creation & Editing (version 3.2)

1. Start a **new session** (Ctrl-N)
2. Select the **cube** (LMB)
3. Enter **Edit mode** (pulldown menu at upper left) by entering edit mode, all vertices are *selected (orange)*.
4. Select **top vertices/face of cube** (there are several ways to do it):
 - **A-key** to *select* all vertices (LMB to deselect)
 - **Box Select Tool**: selects things that lie in a rectangular rubber-band region.
B-key to activate. A two-line crosshair should appear.
LMB-drag to select. Note: only selects *visible* vertices.
 - **Circle Select Tool**: **C-key**
Scroll-wheel to resize selection circle; **LMB** to select
 - **Individual select**: **LMB** then **SHIFT-LMB** on each vertex
"Face Select" icon at the top of the screen:

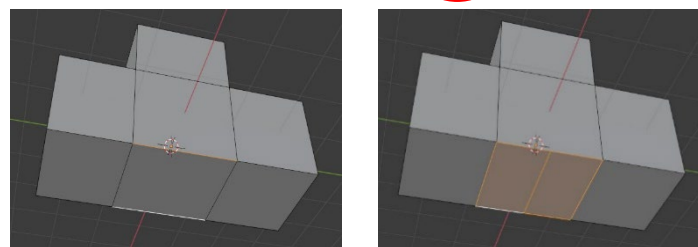
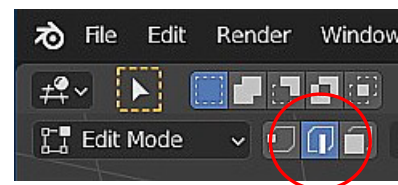


LMB on the cube's top face

5. **Extrude the top face**: **E-key**
move mouse to extrude then LMB to accept.
Then Extrude the two side faces:

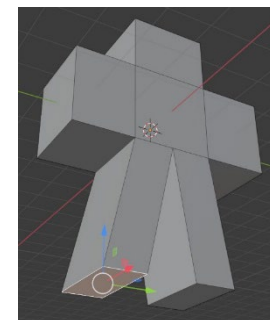


6. **Subdivide the bottom face in half to prepare for forming legs** using the Subdivide Tool:
 - Rotate the model to expose the bottom face
 - Select two opposing edges (use "Edge Select" while holding down the Shift key)
 - **RMB** on one of the selected edges and select **subdivide**



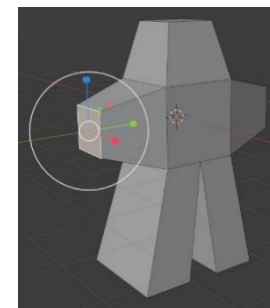
7. **Extrude the legs with the E key**

- choose "Move" mode (left panel)
- slide the feet outward



8. **Scale outer edges of arms smaller:**

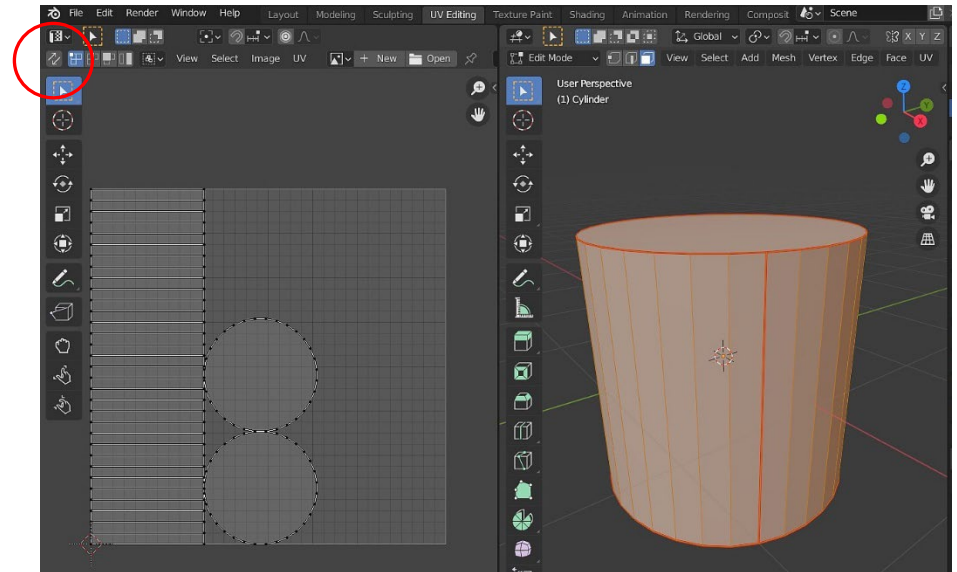
- Select a face
- Choose "Scale" mode (left panel)
- **drag** to reduce arm end size
- Repeat for all hands and feet



9. **Save the model**

2 -- UV Unwrapping

1. Start a New scene (**Ctrl-N**)
2. Go into OBJECT MODE
3. Delete the default cube
4. Add a cylinder (**Add** → **Mesh** → **Cylinder**)
5. Switch to **Edit Mode** (**TAB**)
6. Mark the seams where the cuts are to occur:
 - a. Enter **Edge Select** mode
 - b. Use box-select to select the edges of the top circle
 - c. Repeat for the bottom circle, holding **SHIFT** key down.
 - d. Select one of the vertical edges
 - e. Under the small UV button above the cylinder, select "**Mark Seam**". The seam edges become red.
7. Click "**UV Editing**" at the top of the screen. A new window opens with a 2D flattened view of the model.
8. In the 3D window, switch to "Face Mode", and press "A" to select all of the model faces.
9. Under the small UV button, select "**Unwrap**". The entire model should appear flattened in the 2D window.
10. Click the "UV Sync Selection" button at the upper left (circled in red in the figure), so that changes or selections made in one window are also reflected in the other.
11. Under the small UV button, select "**Export UV Layout**".
12. Outside of Blender, use a "paint" program or photo editing software, with the exported UV image file, add colors to the image as desired.



3 -- Exporting to OBJ

- Make sure that the model, and the UV-unwrapping, are displayed.
- **File** → **Export** → **wavefront.obj**
- In the right panel, select "Z Forward" and "Y up".
- Under "**Geometry**", select the following:
 - **Write Normals**
 - **Include Uvs**
 - **Triangulate Faces**
- Select a name for the OBJ file.
- Note that an **.obj** file is created, and possibly an **.mtl** file.
- Import the object and its texture into your game.