Draft Workbench:

1. Switch to the Draft Workbench by pressing W,4
2. Go to Edit>Preferences>Draft to configure grid and working plane, text and dimensions. Keep them to default value for this exercise.
3. Change Units to Building Euro from Edit>Preferences>General and then Select Unit Tab.
4. Change Gridline layout from Edit>Preferences>Draft then select Grid and Snapping tab. Change Main line every to 10, Grid spacing to 100mm, Grid size to 41 lines.
5. Draft Workbench has two special toolbars. One with visual settings, where you can change the current working plane, turn construction mode on/off, set the line color, face color, line weight and text size to be used for new objects. Another one with snap locations. There, you can turn the grid on/off and set/unset individual snap locations.
6. Turn the construction mode on. It will allow us to draw some guidelines on which we will draw our final geometry.
7. Set working plane to \*XY.
8. Draw rectangle by zooming to -1m x -1m grid and clicking on it and then zooming to 1m x 1m and then clicking on it.

Note:

By entering m, the unit calculation is done automatically.

1. Press O, S for offset or press offset from icon for offset, check copy from task window, move the mouse pointer out in document window to take the distance of 15cm inside the selected rectangle to draw offset inside and then press click. For exact value of 15cm, zoom in.

Note: When an object is marked to recompute with blue check mark in model tree. Press F5 key to recompute it. The calculation will get completed.

1. Select the newly created rectangle, go to property window in task view, then data tab then, change the make face property to false. This will turn off the face of second rectangle just created by offset.
2. Draw line by l, i command. On the mid point and gridline snap. Click with mouse on mid point of the inner rectangle edge (0.15m,1.5m) and the keep the shift button for ortho and click on point (0.15m,3m).
3. Press M, V for move command with copy checked. Select the drawn line. On the snap of intersection and click on the point on the line which intersect with rectangle. Click and zoom in. Check the copy option of move command from task window. Select nearest point snap and move the mouse to right so that the distance becomes 10cm then click to complete move command.
4. Repeat same step of 12 to move with copy another line at distance of 120cm from second line. Similarly move and copy another line to a point (-.55m, -2m). Select the last drawn line and move copy it towards right at distance of 80cm and another at 15cm from last line.
5. Off the construction mode to easily hide if required and delete it later.
6. Press W,i to draw two wires. On the intersection and end point snap. After drawing first wire, either press the first point or press the close button. Select the wires and change the property of make face to true.
7. Select both wires and change go to view tab and change its pattern property to simple and pattern size to 0.01. Press outside to unselect both wires to observe pattern. Change line width from view tab of property for both wires to 2.5cm.
8. To make it further smaller use following command of python console:

FreeCADGui.getDocument("Unnamed").getObject("DWire").PatternSize = 0.005

FreeCADGui.getDocument("Unnamed").getObject("DWire001").PatternSize = 0.005

1. Right click on the construction group and select hide selection to hide construction lines.
2. On the mid and end point snaps only. Draw 6 lines on both openings for door and window.
3. Unselect by clicking in empty space in document. Press R,O for rotate. Select the door line (middle one). Pick the center point. Specify end point of this line as base angle. Uncheck copy and enter -90 in angle to rotate.
4. Draw arc by pressing A,R. Select the center point, specify radius by selecting the end point of vertical line. Select the start angle as end point of vertical line at top and end angle as horizontal mid point at other side of the center.

Note: To smooth the arc curve, go to Edit>Preferences>Part Design then select Shape View tab. Enter 0.5% in Maximum deviation and 25 in Maximum angular deflection.

1. Select the arc, in property window from combo box, select the view tab and change Draw Style to Dashed.
2. To add furniture, draw a rectangle of size 170cm x 60 cm having top left corner on inside wall corner in front of window. From data tab of property, change Make Face to true and from View tab, change transparency to 80.
3. To add sink and cooktop, download its file in dxf either from: <http://www.cad-blocks.net> or from <https://github.com/yorikvanhavre/FreeCAD-manual/blob/master/files/sink.dxf> and <https://github.com/yorikvanhavre/FreeCAD-manual/blob/master/files/cooktop.dxf>
4. Import both dxf files from File>Import or drag and drop. Move them to suitable locations. The files will be added as shapes. First add sink then select all shapes of sink from Model view. Right click on document name in model view and add a group. Rename it to sink. Add shapes of sink to it. Select all shapes of sink by selecting the first shape then scroll down and hold down shift key and select last shape or right click on sink group>utilities>select group. Press M,V. Then select top left corner of sink and move it to nearest gridline near top left corner of window wall. Similarly add cooktop.
5. Add dimension lines by pressing d, i. Dimension lines requires 03 clicks. First point and second points are for measurement and third point is for position of text. End point, nearest, intersection and perpendicular snaps are useful for picking dimensions. Hide the faces of wire to pick points easily. After picking dimension, double click the dimension from model view and drag the text point to change position of text. You can also change property of ext lines, arrow size (2cm), flip text, font size (10cm), show unit, decimals and text position. Use override property to change the text.
6. Add label by pressing d, l enter two points for line and third point for text. Change properties of straight distance, text size and arrow size.
7. Add group in model tree. Group drawing into main group of Floor plan which will contain sub group of Furniture, Doors & Windows, Walls and Annotations.
8. Save (Ctrl+S) and export file (Ctrl+E) as dxf to be used by other CAD packages.
9. Open part workbench and select faces of wall to extrude to 335 cm.

Note:

1. You can change working plan e.g., front view and work in it by making new shape and then using modifying tools to edit 3D shapes.
2. Open Draft workbench by pressing w,4. Draw rectangle at window. Group the extruded shapes and this new rectangle to walls group. Select this rectangle from Model tree. Go back to part workbench and extrude (1.25m) that rectangle to make it top of the door. Select the extruded shape. Change z position under placement property to 1.25m. Go to draft workbench by w,4 and move the extruded shape to wall group. Repeat same process twice to create wall below and above a window of 1.1m height.