

BlockDigitalJKFlipFlop.java

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package net.minecraft.src;

//Created by MoareAI

import java.util.Random;

public class BlockDigitalJKFlipFlop extends Block
{
    //Class parameters
    public BlockDigitalJKFlipFlop(int id)
    {
        super(id, 147, Material.circuits);
        setBlockBounds(0.0F, 0.0F, 0.0F, 1.0F, 0.125F, 1.0F);
        setLightValue(0.625F);
        setHardness(0.0F);
    }

    //Use render types
    public boolean renderAsNormalBlock()
    {
        return false;
    }

    //Block texture
    public int getBlockTextureFromSideAndMetadata(int side, int meta)
    {
        if(meta <= 7)
            return blockIndexInTexture = mod_MiscDigital.TextureJKOff;
        else
            return blockIndexInTexture = mod_MiscDigital.TextureJKOn;
    }

    //Block type (preset)
    public int getRenderType()
    {
        return mod_MiscDigital.RenderGate;
    }

    //The function. Sets metadata to +4 when the gate is to be turned on
    public void onNeighborBlockChange(World world, int x, int y, int z, int id)
    {
        if(!canBlockStay(world, x, y, z))
        {
            dropBlockAsItem(world, x, y, z, world.getBlockMetadata(x, y, z));
            world.setBlockWithNotify(x, y, z, 0);
            return;
        }
        int meta = world.getBlockMetadata(x, y, z);
        boolean InputJ = func_InputJ(world, x, y, z, meta);
        boolean InputC = Trigger(world, x, y, z, meta);
        boolean InputK = func_InputK(world, x, y, z, meta);
        if(InputC && InputJ && InputK)
        {
            if (meta <= 3)
                world.setBlockMetadataWithNotify(x, y, z, meta+12);
            else
                if (meta <= 11 && meta > 7)
                    world.setBlockMetadataWithNotify(x, y, z, meta-4);
        }
        else
            if(!InputC && InputJ && InputK)
            {
                if (meta <= 15 && meta > 11)
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        world.setBlockMetadataWithNotify(x, y, z, meta-4);
    else
    if (meta <= 7 && meta > 3)
        world.setBlockMetadataWithNotify(x, y, z, meta-4);
    }
    else
    if(InputC && InputK)
    {
        if (meta <= 7 && meta > 3)
            world.setBlockMetadataWithNotify(x, y, z, meta-4);
        else
        if (meta <= 11 && meta > 7)
            world.setBlockMetadataWithNotify(x, y, z, meta-8);
        else
        if (meta <= 15 && meta > 11)
            world.setBlockMetadataWithNotify(x, y, z, meta-12);
    }
    else
    if(InputC && InputJ)
    {
        if (meta <= 3)
            world.setBlockMetadataWithNotify(x, y, z, meta+8);
        else
        if (meta <= 7 && meta > 3)
            world.setBlockMetadataWithNotify(x, y, z, meta+4);
        else
        if (meta <= 15 && meta > 11)
            world.setBlockMetadataWithNotify(x, y, z, meta-4);
    }
    world.scheduleBlockUpdate(x, y, z, blockID, 0);
}

//Signal out
public boolean isPoweringTo(IBlockAccess iblockaccess, int x, int y, int z, int
side)
{
    int meta = iblockaccess.getBlockMetadata(x, y, z);
    if(meta == 8 || meta == 12)
        return side == 3;
    if(meta == 9 || meta == 13)
        return side == 4;
    if(meta == 10 || meta == 14)
        return side == 2;
    if(meta == 11 || meta == 15)
        return side == 5;
    else
        return false;
}

//Signal in
//Left
private boolean func_InputJ(World world, int x, int y, int z, int meta)
{
    int side = meta%4;
    if (side == 0)
        return world.isBlockIndirectlyProvidingPowerTo(x-1, y, z, 4) ||
((world.isBlockIndirectlyProvidingPowerTo(x-1, y-1, z+1, 3) ||
world.isBlockIndirectlyProvidingPowerTo(x-1, y-1, z-1, 2)) && world.getBlockId(x-1, y,
z) == Block.redstoneWire.blockID);
    if (side == 1)
        return world.isBlockIndirectlyProvidingPowerTo(x, y, z-1, 2) ||
((world.isBlockIndirectlyProvidingPowerTo(x-1, y-1, z-1, 4) ||
world.isBlockIndirectlyProvidingPowerTo(x+1, y-1, z-1, 5)) && world.getBlockId(x, y, z-

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1) == Block.redstoneWire.blockID);
    if (side == 2)
        return world.isBlockIndirectlyProvidingPowerTo(x+1, y, z, 5) ||
((world.isBlockIndirectlyProvidingPowerTo(x+1, y-1, z-1, 3) ||
world.isBlockIndirectlyProvidingPowerTo(x+1, y-1, z+1, 2)) && world.getBlockId(x+1, y,
z) == Block.redstoneWire.blockID);
        if (side == 3)
            return world.isBlockIndirectlyProvidingPowerTo(x, y, z+1, 3) ||
((world.isBlockIndirectlyProvidingPowerTo(x+1, y-1, z+1, 4) ||
world.isBlockIndirectlyProvidingPowerTo(x-1, y-1, z+1, 5)) && world.getBlockId(x, y,
z+1) == Block.redstoneWire.blockID);
        return false;
    }

    //Back
    private boolean func_InputC(World world, int x, int y, int z, int meta)
    {
        int side = meta%4;
        if (side == 0)
            return world.isBlockIndirectlyProvidingPowerTo(x, y, z+1, 3) ||
((world.isBlockIndirectlyProvidingPowerTo(x+1, y-1, z+1, 4) ||
world.isBlockIndirectlyProvidingPowerTo(x-1, y-1, z+1, 5)) && world.getBlockId(x, y,
z+1) == Block.redstoneWire.blockID);
            if (side == 1)
                return world.isBlockIndirectlyProvidingPowerTo(x-1, y, z, 4) ||
((world.isBlockIndirectlyProvidingPowerTo(x-1, y-1, z+1, 3) ||
world.isBlockIndirectlyProvidingPowerTo(x-1, y-1, z-1, 2)) && world.getBlockId(x-1, y,
z) == Block.redstoneWire.blockID);
                if (side == 2)
                    return world.isBlockIndirectlyProvidingPowerTo(x, y, z-1, 2) ||
((world.isBlockIndirectlyProvidingPowerTo(x-1, y-1, z-1, 4) ||
world.isBlockIndirectlyProvidingPowerTo(x+1, y-1, z-1, 5)) && world.getBlockId(x, y, z-
1) == Block.redstoneWire.blockID);
                    if (side == 3)
                        return world.isBlockIndirectlyProvidingPowerTo(x+1, y, z, 5) ||
((world.isBlockIndirectlyProvidingPowerTo(x+1, y-1, z-1, 3) ||
world.isBlockIndirectlyProvidingPowerTo(x+1, y-1, z+1, 2)) && world.getBlockId(x+1, y,
z) == Block.redstoneWire.blockID);
                        return false;
                }

            //Right
            private boolean func_InputK(World world, int x, int y, int z, int meta)
            {
                int side = meta%4;
                if (side == 0)
                    return world.isBlockIndirectlyProvidingPowerTo(x+1, y, z, 5) ||
((world.isBlockIndirectlyProvidingPowerTo(x+1, y-1, z-1, 3) ||
world.isBlockIndirectlyProvidingPowerTo(x+1, y-1, z+1, 2)) && world.getBlockId(x+1, y,
z) == Block.redstoneWire.blockID);
                    if (side == 1)
                        return world.isBlockIndirectlyProvidingPowerTo(x, y, z+1, 3) ||
((world.isBlockIndirectlyProvidingPowerTo(x+1, y-1, z+1, 4) ||
world.isBlockIndirectlyProvidingPowerTo(x-1, y-1, z+1, 5)) && world.getBlockId(x, y,
z+1) == Block.redstoneWire.blockID);
                        if (side == 2)
                            return world.isBlockIndirectlyProvidingPowerTo(x-1, y, z, 4) ||
((world.isBlockIndirectlyProvidingPowerTo(x-1, y-1, z+1, 3) ||
world.isBlockIndirectlyProvidingPowerTo(x-1, y-1, z-1, 2)) && world.getBlockId(x-1, y,
z) == Block.redstoneWire.blockID);
                            if (side == 3)
                                return world.isBlockIndirectlyProvidingPowerTo(x, y, z-1, 2) ||
((world.isBlockIndirectlyProvidingPowerTo(x-1, y-1, z-1, 4) ||
world.isBlockIndirectlyProvidingPowerTo(x+1, y-1, z-1, 5)) && world.getBlockId(x, y, z-

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1) == Block.redstoneWire.blockID);
    return false;
}

boolean Edge;

//Trigger
private boolean Trigger(World world, int x, int y, int z, int meta)
{
    boolean InputC = func_InputC(world, x, y, z, meta);
    if (mod_MiscDigital.JKTrigger == 0)
    {
        return InputC;
    }else
    if (mod_MiscDigital.JKTrigger == 1)
    {
        if(InputC && !Edge)
        {
            Edge = true;
            return true;
        }
        else
            if (!InputC && Edge)
            Edge = false;
            return false;
        }
    }
    return false;
}

//Rotation when placed
public void onBlockPlacedBy(World world, int x, int y, int z, EntityLiving
entityliving)
{
    int meta = ((MathHelper.floor_double(((double)((entityliving.rotationYaw * 4F) /
360F) + 0.5D) & 3) + 2) % 4;
    world.setBlockMetadataWithNotify(x, y, z, meta);
    int id = blockID;
    onNeighborBlockChange(world, x, y, z, id);
}

//Notifies neighbor blocks when added
public void onBlockAdded(World world, int x, int y, int z)
{
    world.notifyBlocksOfNeighborChange(x+1, y, z, blockID);
    world.notifyBlocksOfNeighborChange(x-1, y, z, blockID);
    world.notifyBlocksOfNeighborChange(x, y, z+1, blockID);
    world.notifyBlocksOfNeighborChange(x, y, z-1, blockID);
    world.notifyBlocksOfNeighborChange(x, y-1, z, blockID);
    world.notifyBlocksOfNeighborChange(x, y+1, z, blockID);
}

//When dropped
public int idDropped(int i, Random random)
{
    return mod_MiscDigital.ItemJKFlipFlop.shiftedIndex;
}

//Tests if the block is solid
public boolean isOpaqueCube()
{
    return false;
}

//Tests if the block may provide power. Used for drawing Redstone Wires

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public boolean canProvidePower()
{
    return true;
}

//Tests where the block may be placed
public boolean canPlaceBlockAt(World world, int x, int y, int z)
{
    if(!world.isBlockOpaqueCube(x, y - 1, z))
        return false;
    else
        return super.canPlaceBlockAt(world, x, y, z);
}

//Tests if the block may stay in the world
public boolean canBlockStay(World world, int x, int y, int z)
{
    if(!world.isBlockOpaqueCube(x, y - 1, z))
        return false;
    else
        return super.canBlockStay(world, x, y, z);
}
}
```