

# Code projects (python & simple)

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map the internet based on if i get  
a ping

map the internet based on if i get a ping

# map maker v3.py (functioning?)

## last ping 1.0.212.120 white

```
import os
import socket
import struct
from ping3 import ping
from PIL import Image

print("start running")

def ip_to_int(ip):
    int_ip = struct.unpack("!!", socket.inet_aton(ip))[0]
    return int_ip
def int_to_ip(i):
    ip = socket.inet_ntoa(struct.pack("!!", i))
    return ip
def hilbert_curve(n):
    points = [(0, 0)]
    for i in range(n):
        gray = [((k >> i) ^ (k >> (i + 1))) & 1 for k in range(2 ** i)]
        points = _rot(points, gray)
    return points

def _rot(points, gray):
    rot = [(1, 0), (0, 1), (-1, 0), (0, -1)]
    last = points[-1]
    for code in gray:
        last = (last[0] + rot[code][0], last[1] + rot[code][1])
        points.append(last)
    return points

def ping_ip(ip):
    try:
        response_time = ping(ip, timeout=1)
        return 1 if response_time is not None else 0
    except OSError:
        return -1

def main():
```

```

img_size = 65536
n = 16
print(f"img size = {img_size}, n={n} Creating a blank image with a white background")

img = Image.new("1", (img_size, img_size), color="grey")
pixels = img.load()
curve_filename = "hilbert_curve v2.txt"
if os.path.exists(curve_filename):
    with open(curve_filename, "r") as f:
        print("reading Hilbert curve coordinates file")
        curve_points = [tuple(map(int, line.strip().split())) for line in f.readlines()]
else:
    print("Generating Hilbert curve coordinates file")
    curve_points = hilbert_curve(n)
    with open(curve_filename, "w") as f:
        for x, y in curve_points:
            f.write(f"{x} {y}\n")

ip_range = 2 ** 32
start_ip_int = 0
if os.path.exists('ping_status.txt'):
    with open('ping_status.txt', 'r') as f:
        lines = f.readlines()
        if len(lines) > 0:
            last_line = lines[-1].strip()
            last_ip, last_result = last_line.split()
            start_ip_int = ip_to_int(last_ip) + 1
            print(f"Resuming from IP address {last_ip}, result = {last_result}")
with open('ping_status.txt', 'a') as f:
    print("pinging and writing to ping status.txt")
    for i in range(start_ip_int, ip_range):
        ip = int_to_ip(i)
        x, y = curve_points[i % len(curve_points)]
        result = ping_ip(ip)
        print(f"result {result} for ip {ip}")
        if result == -1:
            f.write(f"{ip} black\n")
            pixels[x, y] = 0
        else:
            pixels[x, y] = result
            if result == 0:
                f.write(f"{ip} white\n")
            else:
                f.write(f"{ip} black\n")
    if (i + 1) % (2 ** 24) == 0:
        img.save("ping_map.png")

```

```
img.save("ping_map.png")
print("Finished pinging IP addresses and saved final image")
if __name__ == '__main__':
    main()
```

# sort imgs.py

edit the code for the folder

```
from PIL import Image
import os

unique_images = {}

# edit this
directory = r'J:\New folder'

for filename in os.listdir(directory):
    if filename.endswith('.png'):

        img = Image.open(os.path.join(directory, filename))

        if str(img.tobytes()) in unique_images:

            os.remove(os.path.join(directory, filename))
            print(f"Deleted {filename}")
        else:

            unique_images[str(img.tobytes())] = filename
            print(f"Kept {filename}")
```

this one will ask where you want to check

```
from PIL import Image
import os

unique_images = {}
directory = input("Enter the directory containing the PNG files: ")
print(f"Directory: {directory}")
for filename in os.listdir(directory):
    if filename.endswith('.png'):
        img = Image.open(os.path.join(directory, filename))
        if str(img.tobytes()) in unique_images:
```

```
    os.remove(os.path.join(directory, filename))
    print(f"Deleted {filename}")
else:

    unique_images[str(img.tobytes())] = filename
    print(f"Kept {filename}")
```

# nzk-install

```
#!/bin/bash

# Script to install an AppImage to /nzk/appImages and add it to the application menu
# update nzk-install with nkz-install --update
APPIMAGE_PATH=""
APP_NAME=""
OVERRIDE=false
UPDATE=false
HELP=false
HELPPFILE=false
HELPPFILE_PATH=""
SUDO=false
AUR_URL=""
GIT_DIR="/nzk/git"

while [[ $# -gt 0 ]]; do
    case $1 in
        --name=*|-n=*)
            APP_NAME="${1#*=}"
            shift
            ;;
        --override=*|-o=*)
            OVERRIDE_VALUE="${1#*=}"
            if [ "$OVERRIDE_VALUE" = "y" ] || [ "$OVERRIDE_VALUE" = "yes" ]; then
                OVERRIDE=true
            fi
            shift
            ;;
        --update)
            UPDATE=true
            shift
            ;;
        --help)
            HELP=true
            shift
    esac
done
```

```

        ;;
    --helpfile)
        HELPFILE=true
        shift
        ;;
    --helpfile=*)
        HELPFILE_PATH="${1#*=}"
        HELPFILE=true
        shift
        ;;
    --sudo)
        SUDO=true
        shift
        ;;
    --aur=*)
        AUR_URL="${1#*=}"
        shift
        ;;
    *)
        if [ -z "$APPIMAGE_PATH" ]; then
            APPIMAGE_PATH="$1"
        else
            echo "Unknown argument: $1"
            exit 1
        fi
        shift
        ;;
    esac
done

if [ "$HELP" = true ]; then
    echo "Usage: $0 <path to AppImage or executable> [--name=\"App Name\" | -n=\"App Name\"]
[--override=y | -o=y] [--update] [--help] [--helpfile | --helpfile=/path/to/helpfile] [--sudo]
[--aur=<url>]"
    echo "Options:"
    echo "  --name, -n: Set custom name for the app"
    echo "  --override, -o: Override existing alias without prompting"
    echo "  --update: Update the script itself"
    echo "  --help: Show this help"
    echo "  --helpfile: Create a default help file for the app"

```

```

echo " --helpfile=/path: Copy help file from the specified path"
echo " --sudo: Run the app with sudo"
echo " --aur=<url>: Install from AUR git repository"
echo "Note: FUSE installation is only performed for AppImages."
exit 0
fi

if [ "$UPDATE" = true ]; then
    echo "Updating nzk-install..."
    sudo cp "/home/naruzkurai/Coding/AppImage-to-start-link/nzk-install" "/usr/local/bin/nzk-
install"
    echo "nzk-install updated."
    exit 0
fi

if [ -n "$AUR_URL" ]; then
    # Handle AUR install
    if [ -f /etc/os-release ]; then
        . /etc/os-release
        if [ "$ID" != "arch" ] && [ "$ID" != "manjaro" ] && [ "$ID" != "cachyos" ] && [ "$ID"
!= "endeavouros" ]; then
            echo "AUR install is only supported on Arch-based systems."
            exit 1
        fi
    else
        echo "Cannot detect OS. AUR install may not work."
    fi
    if ! command -v git >/dev/null 2>&1; then
        echo "Git is not installed. Please install git first."
        exit 1
    fi
    sudo mkdir -p "$GIT_DIR"
    sudo chown -R $(whoami):$(whoami) "$GIT_DIR"
    REPO_NAME=$(basename "$AUR_URL" .git)
    CLONE_DIR="$GIT_DIR/$REPO_NAME"
    if [ -d "$CLONE_DIR" ]; then
        echo "Directory $CLONE_DIR already exists. Updating..."
        cd "$CLONE_DIR" || exit 1
        git pull
    else

```

```

    git clone "$AUR_URL" "$CLONE_DIR"
    cd "$CLONE_DIR" || exit 1
fi
# Build and install
makepkg -si
echo "Package installed from $AUR_URL"
exit 0
fi

if [ -z "$APPIMAGE_PATH" ] && [ "$HELPPFILE" = false ] && [ -z "$AUR_URL" ]; then
    echo "Usage: $0 <path to AppImage or executable> [--name=\"App Name\" | -n=\"App Name\"]
[--override=y | -o=y] [--update] [--help] [--helpfile | --helpfile=/path/to/helpfile] [--sudo]
[--aur=<url>]"
    exit 1
fi

if [ ! -f "$APPIMAGE_PATH" ]; then
    echo "Error: File not found at $APPIMAGE_PATH"
    exit 1
fi

# Handle tar.gz extraction
if [[ "$APPIMAGE_PATH" == *.tar.gz ]]; then
    EXTRACT_DIR="/tmp/$(basename "$APPIMAGE_PATH" .tar.gz)"
    rm -rf "$EXTRACT_DIR"
    mkdir -p "$EXTRACT_DIR"
    tar -xzf "$APPIMAGE_PATH" -C "$EXTRACT_DIR" || { echo "Failed to extract $APPIMAGE_PATH";
exit 1; }
    # Check if extracted to a single directory
    CONTENTS=("$EXTRACT_DIR"/*)
    if [ ${#CONTENTS[@]} -eq 1 ] && [ -d "${CONTENTS[0]}" ]; then
        APPIMAGE_PATH="${CONTENTS[0]}"
    else
        # Find the main executable
        EXECUTABLE=$(find "$EXTRACT_DIR" -type f -executable | head -1)
        if [ -z "$EXECUTABLE" ]; then
            echo "No executable found in extracted $APPIMAGE_PATH"
            exit 1
        fi
        APPIMAGE_PATH="$EXECUTABLE"
    fi
fi

```

```

    fi
fi

# Detect if it's an AppImage
IS_APPIMAGE=false
if [[ "$APPIMAGE_PATH" == *.AppImage ]]; then
    IS_APPIMAGE=true
fi

DEST_DIR="/nzk-bin"

# Create the directory if it doesn't exist
sudo mkdir -p "$DEST_DIR"

# Set permissions to allow writing and executing
sudo chmod 755 "$DEST_DIR"

# Copy the AppImage or dir
if [ -d "$APPIMAGE_PATH" ]; then
    # Directory install
    EXECUTABLE_NAME=$(basename "$APPIMAGE_PATH")
    sudo cp -r "$APPIMAGE_PATH" "$DEST_DIR/"
    EXECUTABLE_REL="./$(find "$APPIMAGE_PATH" -type f -executable | head -1 | sed
"s|^$APPIMAGE_PATH/|")"
else
    # File install
    EXECUTABLE_NAME=$(basename "$APPIMAGE_PATH")
    sudo cp "$APPIMAGE_PATH" "$DEST_DIR/$EXECUTABLE_NAME"
    EXECUTABLE_REL="./$EXECUTABLE_NAME"
fi

# Make it executable
if [ -f "$DEST_DIR/$EXECUTABLE_NAME" ]; then
    sudo chmod +x "$DEST_DIR/$EXECUTABLE_NAME"
fi

install_fuse() {
    if [ -f /etc/os-release ]; then
        . /etc/os-release
        case $ID in

```

```

arch|manjaro|cachyos|endeavouros)
    if ! pacman -Q fuse2 > /dev/null 2>&1; then
        echo "Detected Arch-based system. Installing fuse2..."
        sudo pacman -S --noconfirm fuse2
    fi
;;
ubuntu|debian|pop|elementary|zorin|linuxmint)
    if ! dpkg -l libfuse2 | grep -q ^ii; then
        echo "Detected Debian/Ubuntu-based system. Installing libfuse2..."
        sudo apt update && sudo apt install -y libfuse2
    fi
;;
fedora|rhel|centos|rocky|almalinux)
    if ! rpm -q fuse-libs > /dev/null 2>&1; then
        echo "Detected Fedora/RHEL-based system. Installing fuse-libs..."
        sudo dnf install -y fuse-libs
    fi
;;
opensuse*|sles)
    if ! rpm -q fuse > /dev/null 2>&1; then
        echo "Detected openSUSE. Installing fuse..."
        sudo zypper install -y fuse
    fi
;;
*)
    echo "Unknown OS: $ID. Please install FUSE manually (libfuse2, fuse2, or
equivalent)."
```

```

    ;;
esac
else
    echo "Cannot detect OS. Please install FUSE manually."
fi
}

# Install FUSE if needed for AppImage to run
if [ "$IS_APPIMAGE" = true ]; then
    install_fuse
fi

# Set default name if not provided

```

```

if [ -z "$APP_NAME" ]; then
    APP_NAME="{EXECUTABLE_NAME%.AppImage}"
fi

# Create command name (replace spaces with dashes)
COMMAND_NAME=$(echo "$APP_NAME" | tr ' ' '-')
ALIAS_PATH="/usr/local/bin/nzk-$COMMAND_NAME"

# Check if alias already exists
if [ -e "$ALIAS_PATH" ]; then
    if [ "$OVERRIDE" = false ]; then
        echo "nzk-$COMMAND_NAME already exists. Override? (y/n)"
        read -r answer
        if [ "$answer" != "y" ] && [ "$answer" != "yes" ]; then
            echo "Aborting."
            exit 1
        fi
    fi
    sudo rm -f "$ALIAS_PATH"
fi

# Create alias (script for dir or symlink for file)
if [ -d "$APPIMAGE_PATH" ]; then
    # For directory
    if [ "$SUDO" = true ]; then
        sudo tee "$ALIAS_PATH" > /dev/null << EOF
#!/bin/bash
cd "$DEST_DIR/$EXECUTABLE_NAME"
sudo "$EXECUTABLE_REL" "\$@"
EOF
    else
        sudo tee "$ALIAS_PATH" > /dev/null << EOF
#!/bin/bash
cd "$DEST_DIR/$EXECUTABLE_NAME"
"$EXECUTABLE_REL" "\$@"
EOF
    fi
else
    # For file
    if [ "$SUDO" = true ]; then

```

```

        sudo tee "$ALIAS_PATH" > /dev/null << EOF
#!/bin/bash
sudo "$DEST_DIR/$EXECUTABLE_NAME" "\$@"
EOF
    else
        sudo ln -s "$DEST_DIR/$EXECUTABLE_NAME" "$ALIAS_PATH"
    fi
fi
sudo chmod +x "$ALIAS_PATH"

# Create help file if requested
if [ "$HELPPFILE" = true ]; then
    HELP_DIR="/bin/nzk-apps/helpfiles/$COMMAND_NAME"
    sudo mkdir -p "$HELP_DIR"
    HELP_FILE="$HELP_DIR/helpfile"
    if [ -n "$HELPPFILE_PATH" ]; then
        if [ -f "$HELPPFILE_PATH" ]; then
            sudo cp "$HELPPFILE_PATH" "$HELP_FILE"
            echo "Help file copied from $HELPPFILE_PATH to $HELP_FILE"
        else
            echo "Error: Help file not found at $HELPPFILE_PATH"
            exit 1
        fi
    else
        FILE_TYPE="Executable"
        if [ "$IS_APPIMAGE" = true ]; then
            FILE_TYPE="AppImage"
        fi
        sudo tee "$HELP_FILE" > /dev/null << EOF

```

Help for \$APP\_NAME

\$FILE\_TYPE: \$EXECUTABLE\_NAME

Location: \$DEST\_DIR/\$EXECUTABLE\_NAME

Alias: \$ALIAS\_PATH

To run the app:

- Use the alias: nzk-\$COMMAND\_NAME
- Or run directly: \$DEST\_DIR/\$EXECUTABLE\_NAME
- Or from the application menu.

For more information, check the \$FILE\_TYPE documentation.

EOF

```
    echo "Help file created at $HELP_FILE"
```

```
    fi
```

```
fi
```

```
# Create desktop file
```

```
DESKTOP_DIR="$HOME/.local/share/applications"
```

```
mkdir -p "$DESKTOP_DIR"
```

```
DESKTOP_FILE="$DESKTOP_DIR/$COMMAND_NAME.desktop"
```

```
cat > "$DESKTOP_FILE" << EOF
```

```
[Desktop Entry]
```

```
Version=1.0
```

```
Type=Application
```

```
Name=$APP_NAME
```

```
Exec=$ALIAS_PATH
```

```
Icon=application-x-executable
```

```
Terminal=false
```

```
Categories=Utility;
```

```
EOF
```

```
chmod +x "$DESKTOP_FILE"
```

```
echo "$FILE_TYPE installed to $DEST_DIR/$EXECUTABLE_NAME"
```

```
echo "Desktop entry created at $DESKTOP_FILE"
```

```
echo "Alias created: nzk-$COMMAND_NAME"
```

# nzk-help

```
#!/bin/bash

# nzk-help: Display help for nzk-installed apps

if [ $# -eq 0 ]; then
    echo "Usage: nzk-help <appname>"
    echo "Available apps with help files:"
    if [ -d /bin/nzk-apps/helpfiles ]; then
        ls /bin/nzk-apps/helpfiles
    else
        echo "No help files found."
    fi
    exit 1
fi

APP_NAME="$1"
HELP_FILE="/bin/nzk-apps/helpfiles/$APP_NAME/helpfile"

if [ -f "$HELP_FILE" ]; then
    cat "$HELP_FILE"
else
    echo "No help file found for '$APP_NAME'."
    echo "Available apps:"
    if [ -d /bin/nzk-apps/helpfiles ]; then
        ls /bin/nzk-apps/helpfiles
    fi
    exit 1
fi
```