**Practical - 4**

**Code -**

from PIL import Image

import os

import sys

def reduce\_resolution(input\_path, output\_path, scale\_factor=0.5):

    try:

        with Image.open(input\_path) as img:

            # Calculate new dimensions

            width, height = img.size

            new\_width = int(width \* scale\_factor)

            new\_height = int(height \* scale\_factor)

            # Resize the image

            resized\_img = img.resize((new\_width, new\_height), Image.LANCZOS)

            # Save the resized image

            resized\_img.save(output\_path)

            print(f"Image saved to {output\_path}")

    except Exception as e:

        print(f"Error: {e}")

if \_\_name\_\_ == "\_\_main\_\_":

    if len(sys.argv) < 3:

        print("Usage: python reduce\_resolution.py <input\_image> <output\_image> [scale\_factor]")

        sys.exit(1)

    input\_image = sys.argv[1]

    output\_image = sys.argv[2]

    scale\_factor = float(sys.argv[3]) if len(sys.argv) > 3 else 0.5

    reduce\_resolution(input\_image, output\_image, scale\_factor)

**DockerFile –**

# Use official Python image

FROM python:3.9-alpine

# Set working directory

WORKDIR /app

# Install dependencies

RUN pip install Pillow

# Copy the script

COPY reduce\_resolution.py .

# Command to run the script

ENTRYPOINT ["python", "reduce\_resolution.py"]





 