Task 0 - Calculations

To determine the specific set of images I need to download from the FEI Face Database, I followed these steps:

1. **Compute the values a, b, and c:**
   - **a**: The ASCII code of the first letter of my last name ('T') minus the ASCII code of capital letter 'A':
   $$a = ASCII(T) - ASCII(A) = 84 - 65 = 19$$
   - **b**: The ASCII code of the second letter of my last name ('o') minus the ASCII code of the letter 'a':
   $$b = ASCII(o) - ASCII(a) = 111 - 97 = 14$$
   - **c**: The ASCII code of the first letter of my first name ('A') minus the ASCII code of capital letter 'A':
   $$c = ASCII(A) - ASCII(A) = 65 - 65 = 0$$
2. **Compute the argument x:**
   - Since b=14 (which is not less than 2) and c=0 (which is less than 17), I used the second condition:
   $$x = (2a)^2 + b^2 + (3c)^2$$

Substituting the values:

$$x = (2 \cdot 19)^2 + 14^2 + (3 \cdot 0)^2 = 1444 + 196 = 1640$$

3. **Compute the floating-point index y:**
   - Since b=14 (which is not less than 2) and c=0 (which is less than 17), I used the second condition:

$$y = 0.037x + 8.2$$

Substituting the value of x:

$$y = 0.037 \cdot 1640 + 8.2 = 60.68 + 8.2 = 68.88$$

4. **Determine the integer index start:**
   - I rounded (y/8) to the nearest integer, multiplied it by 8, and added 1:

$$start = int\left(\frac{y}{8} + 0.5\right) \times 8 + 1$$

Substituting the value of y:

$$start = int\left(\frac{68.88}{8} + 0.5\right) \times 8 + 1 = int(8.61 + 0.5) \times 8 + 1 = 9 \cdot 8 + 1 = 73$$

Therefore, the starting index is 73. According to the instructions, I need to download the images from index 73 up to 73 + 7 inclusive, which corresponds to images 73 to 80. These images will be uploaded to the subfolder `\HW1\dataset\`.