Name and surname	**Michał Ferens**
Subject	**Simulation of Analog-to-Digital Converter**

1. Program functionality

The program allows you to simulate an AC converter.

AC Converter:

On the front-panel, we can adjust the input signal:

- signal type (sine, square, etc.)

- frequency

- amplitude

- offset

Additionally, we can set the parameters of the converter:

- sampling rate

- number of bits (determining the resolution of the sensor)

- minimum and maximum voltage supported by the converter.

On the way out, it shows us:

- bit (digital) value (both diodes corresponding to individual bits and a numerical value converted to the decimal system)

- quantization error

- input signal

- signal after sampling

In summary, the converter performs sampling, quantization and signal coding.

2. Problems

The program works 100% correctly only for 8 bits, because it is designed for 8 LEDs. For fewer bits, it also works, but not quite correctly.