Laboratory work 6

Topic: Research on the organisation of information output to seven-segment indicators on the ATMega328 microprocessor

Purpose of the work: To study the organisation of the process of outputting information to seven-segment indicators on the ATMega328 microprocessor on the Arduino platform. To gain practical skills in outputting information to seven-segment indicators using the ATMega328 microprocessor on the Arduino UNO R3 board.

Individual task.

1. Ensure the sequential output of specified characters to a seven-segment LED indicator. Task options are listed in the table.

2. Ensure the output of specified characters to a 4-digit seven-segment LED indicator. Task options are listed in the table.

Information for point 1	Information for point 2
PH1234	3, 6, F, A

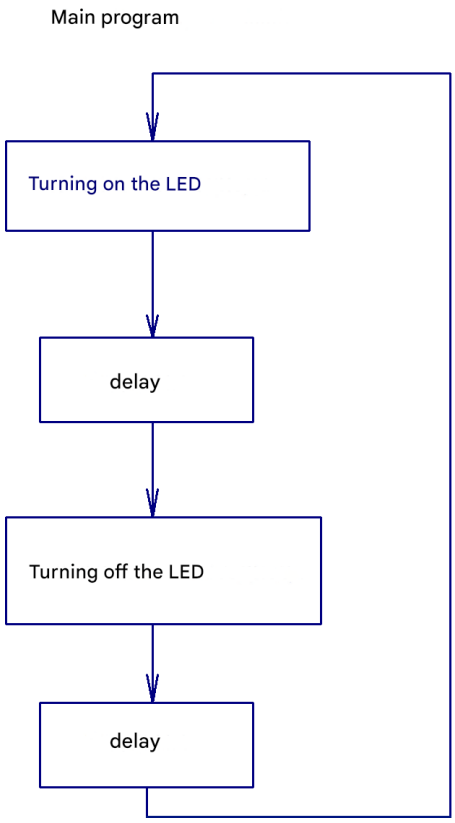

Figure 1 - Block diagram

Organization of the process of sequential output of specified characters to a seven-segment LED indicator using an ATMega328 microprocessor according to an individual task

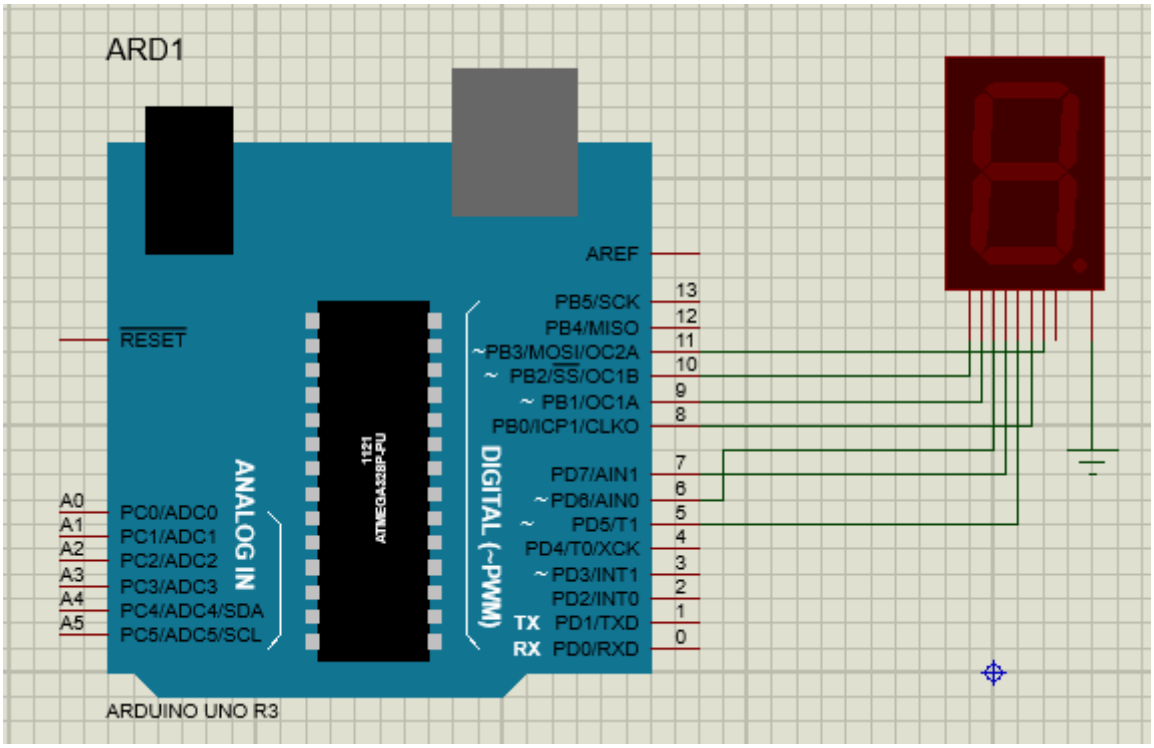

Figure 2 - Diagram in Proteus

Figure 3 – Result of displaying specified characters on a seven-segment LED indicator

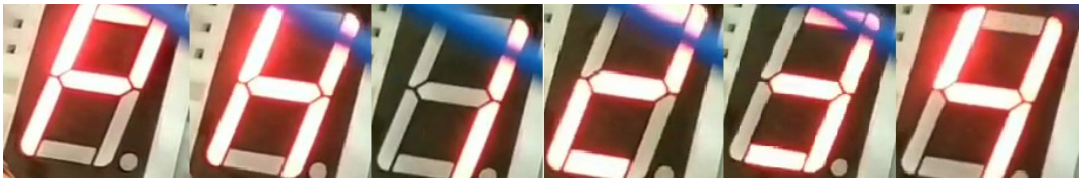

Figure 4 - Result of displaying specified characters on a seven-segment indicator located on a breadboard

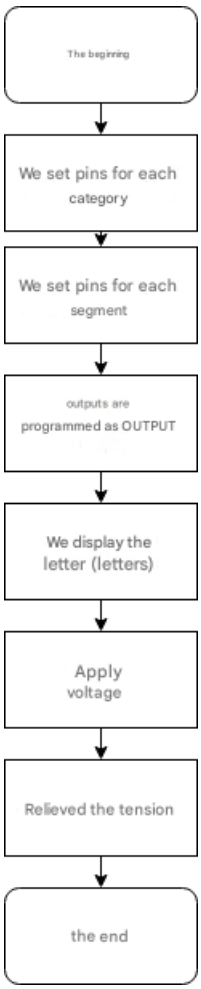

Figure 5 - block diagram

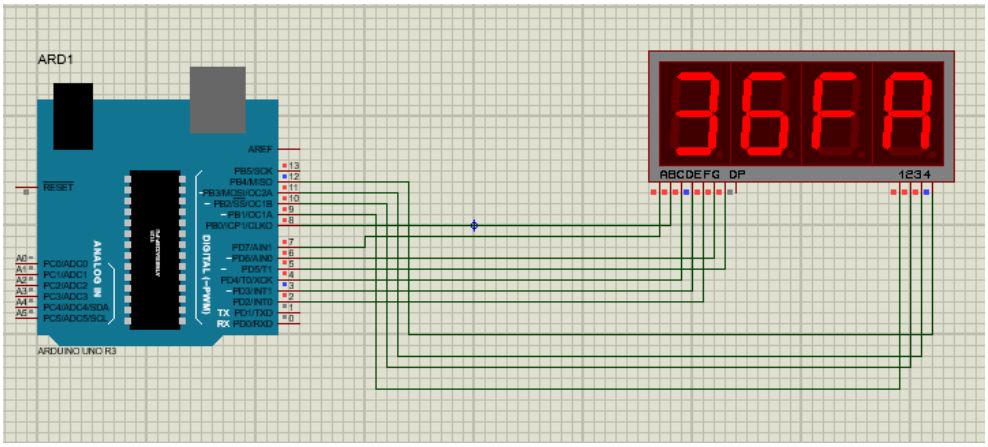

Figure 6 - output of specified characters on a 4-digit seven-segment LED indicator

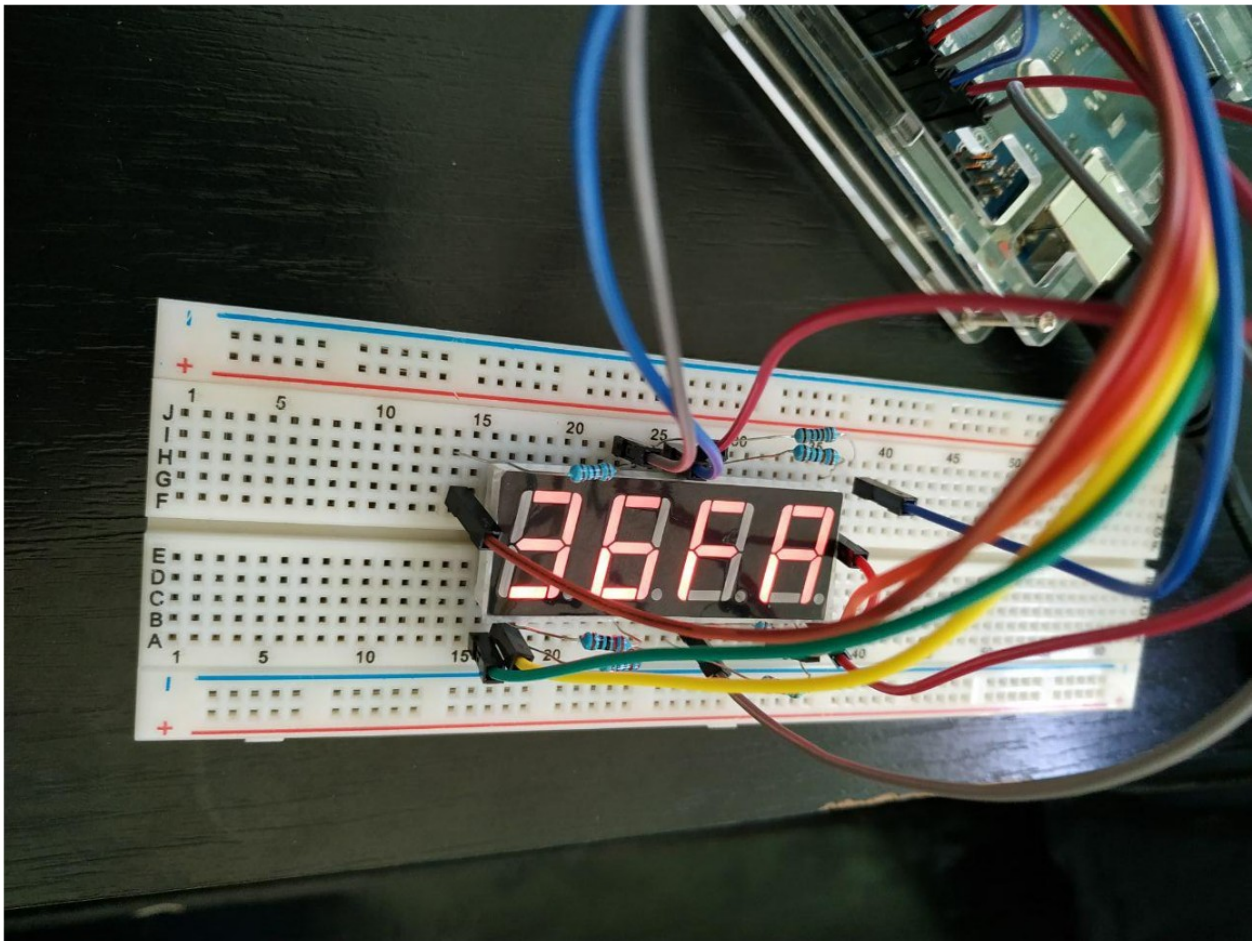

Figure 7 - The result of displaying the specified characters on a 4-bit seven-segment indicator located on a breadboard

CONCLUSION

We investigated the organization of the process of displaying information on seven-segment indicators on the ATMega328 microprocessor on the Arduino platform. We obtained practical skills in displaying information on seven-segment indicators using the ATMega328 microprocessor on the Arduino UNO R3 board.