|  |  |  |
| --- | --- | --- |
| ID | Last Name | First Name |
|  |  |  |

Variant B

**Theory part**

1. What does «Computer architecture» mean?
2. Describe the machine cycles of MOV instruction with INDIRECT addressing using the simplest processor scheme given below.

Изображение выглядит как снимок экрана

Автоматически созданное описание

**Practice part**

1. Translate the given machine code in hexadecimal system into mnemonic code and fill the table below.

|  |  |  |
| --- | --- | --- |
| ADDRESS | MACHINE CODE | MNEMONIC CODE |
| 54B | F200\* |  |
| 54C | 3561 |  |
| 54D | 455F |  |
| 54E | 2722 |  |
| 54F | F900 |  |
| 550 | 4561 |  |
| 551 | 3561 |  |
| 552 | F200 |  |
| 553 | 4560 |  |
| 554 | 2722 |  |
| 555 | 6561 |  |
| 556 | 3561 |  |
| 557 | F200 |  |
| 558 | 455E |  |
| 559 | F900 |  |
| 55A | 2722 |  |
| 55B | 6561 |  |
| 55C | 3561 |  |
| 55D | F000 |  |
| 55E | 0001 |  |
| 55F | 0020 |  |
| 560 | 0560 |  |
| 561 | 0000 |  |
|  |  |  |
| 722 | 0000 |  |
| 723 | A729 |  |
| 724 | B729 |  |
| 725 | 6733 |  |
| 726 | 9728 |  |
| 727 | C72F |  |
| 728 | 4733 |  |
| 729 | 3732 |  |
| 72A | F300 |  |
| 72B | F600 |  |
| 72C | 4732 |  |
| 72D | 6734 |  |
| 72E | CF22 |  |
| 72F | F200 |  |
| 730 | 4733 |  |
| 731 | CF22 |  |
| 732 | 0000 |  |
| 733 | 06FF |  |
| 734 | 0066 |  |

\* - entry point of the program

1. Draw the flow chart of the program.
2. Fill the table below with the content of the memory after the program execution. Please write also the number of the memory accesses for each memory cell.

|  |  |  |
| --- | --- | --- |
| ADDRESS | MACHINE CODE | NUMBER OF MEMORY ACCESSES |
| 54B |  |  |
| 54C |  |  |
| 54D |  |  |
| 54E |  |  |
| 54F |  |  |
| 550 |  |  |
| 551 |  |  |
| 552 |  |  |
| 553 |  |  |
| 554 |  |  |
| 555 |  |  |
| 556 |  |  |
| 557 |  |  |
| 558 |  |  |
| 559 |  |  |
| 55A |  |  |
| 55B |  |  |
| 55C |  |  |
| 55D |  |  |
| 55E |  |  |
| 55F |  |  |
| 560 |  |  |
| 561 |  |  |
|  |  |  |
| 722 |  |  |
| 723 |  |  |
| 724 |  |  |
| 725 |  |  |
| 726 |  |  |
| 727 |  |  |
| 728 |  |  |
| 729 |  |  |
| 72A |  |  |
| 72B |  |  |
| 72C |  |  |
| 72D |  |  |
| 72E |  |  |
| 72F |  |  |
| 730 |  |  |
| 731 |  |  |
| 732 |  |  |
| 733 |  |  |
| 734 |  |  |