1.

a. 01001010

b. 11010110

c. 11001011

d. 01010001

2.

a. -54

b. -42

c. 53

d. -47

3.

a. 10111000

b. 10000000

c. 00100010

d. 11100111

4. 11010100

5. Three reasons to learn assembly language according to our book are:

a.

Computers do not understand high level language as they are written in simple English language and thus, they required further translation for the machine to understand. But assembly language does not require any translation for the machine to understand.

b.

Game programmers like assembly language as it permits access to hardware of the computer directly. And program written in assembly language executes faster than that of high-level language.

c.

It becomes awkward sometimes to perform some small task by high level languages. Programmers like to use assembly languages to perform small task sometimes.

6.

a.

|  |  |  |  |
| --- | --- | --- | --- |
| A | B | A^B | ~(A^B) |
| 0 | 0 | 0 | 1 |
| 0 | 1 | 1 | 0 |
| 1 | 0 | 1 | 0 |
| 1 | 1 | 0 | 1 |

b.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| A | B | ~ B | (AV~B) | ~(AV~B) |
| 0 | 0 | 1 | 1 | 0 |
| 0 | 1 | 0 | 0 | 1 |
| 1 | 0 | 1 | 1 | 0 |
| 1 | 1 | 0 | 1 | 0 |

7.

a. 10100010

b. 01101111