**T62 Tutorial 7**

1. Observe the contents of some registers when the following instructions are executed. Fill in the table.

(8 marks)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | L\_BYTE | H\_BYTE | WREG | C flag | DC flag |
| addwf mem1,W | 0x00 | 0x00 | 0x28 | 0 | 0 |
| daw | 0x00 | 0x00 | 0x28 | 0 | 0 |
| addwf mem2,W | 0x00 | 0x00 | 0x71 | 0 | 1 |
| daw | 0x00 | 0x00 | 0x77 | 0 | 1 |
| addwf mem3,W | 0x00 | 0x00 | 0x10 | 1 | 1 |
| daw | 0x00 | 0x00 | 0x76 | 1 | 1 |
| incf H\_BYTE, F | 0x00 | 0x01 | 0x76 | 0 | 0 |
| movwf L\_BYTE | 0x76 | 0x01 | 0x76 | 0 | 0 |

1. What is the summation result?

(2 marks)

1. Observe the contents of some registers when the following instructions are executed. Fill in the table.

(6 marks)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | L\_result | H\_result | WREG | N flag | OV flag | C flag | DC flag |
| addwf number\_2\_L\_byte, W | 0x00 | 0x00 | 0xB0 | 1 | 1 | 0 | 1 |
| daw | 0x00 | 0x00 | 0x16 | 1 | 1 | 1 | 1 |
| movwf L\_result | 0x16 | 0x00 | 0x16 | 1 | 1 | 1 | 1 |
| addwfc number\_2\_H\_byte, W | 0x16 | 0x00 | 0xD2 | 1 | 0 | 0 | 1 |
| daw | 0x16 | 0x00 | 0x38 | 1 | 0 | 1 | 1 |
| movwf H\_result | 0x16 | 0x38 | 0x38 | 1 | 0 | 1 | 1 |

1. What is the summation result?

(2 marks)

1. Observe the contents of some registers when the following instructions are executed. Fill in the table.

(4 marks)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | L\_result | H\_result | WREG | N flag | OV flag | C flag | DC flag |
| subwf number\_2\_L\_byte, W | 0x00 | 0x00 | 0xE2 | 1 | 0 | 0 | 1 |
| movwf L\_result | 0xE2 | 0x00 | 0xE2 | 1 | 0 | 0 | 1 |
| subwfb number\_2\_H\_byte, W | 0xE2 | 0x00 | 0x8B | 1 | 1 | 0 | 0 |
| movwf H\_result | 0xE2 | 0x8B | 0x8B | 1 | 1 | 0 | 0 |

1. What is the subtraction result?

(2 marks)

**Submission**

Enter your name, student ID number, and the answers in the MS Word document file. Re-name the file with your student ID number, e.g. 12345678.docx. **Deduct 4 marks for wrong file name.**

Submit the file by e-mail ([itklchan@cityu.edu.hk](mailto:itklchan@cityu.edu.hk)) before 3:00 pm. **Late submission will not be accepted.**