CS2100 Assignment 1 Answer Book

Name:	Neo Haowei
Student ID:	A0264683U
Tutorial Group Number:	41

After completion, save this file as AxxxxxxxY.pdf, then zip together with your parity.c file into a single zip file AxxxxxxxY.zip, and submit this on Canvas.

If you do not fill your particulars above, or do not follow the submission instructions you will forfeit 3 marks.

Question 1. (13 MARKS)

1a. (1 mark)
Parity (in hexadecimal): 0x04

1b. Cut and paste your **hex2dec** code below (2 marks)

```
uint8_t hex2dec(char *byte) {
    return finddec(byte[0])*16 + finddec(byte[1]);
}
```

1c. Correctness of code: _____/10 (Filled in by TA)

Q1 Total: _____ / 13

Question 2. (10 MARKS)

2ai) X in base 7 is _____523____ (1 mark)
2aii) Y in base 5 is _____124_____ (1 mark)
2aiii) The mystery base Z is _____9_____ (1 mark)

2bi) The smallest positive number that can be represented is ___0.00390625___ (1 mark)
2bii) The largest positive number that can be represented is ___127.99609375__ (1 mark)
2biii) The most negative number that can be represented is __-127.99609375__(1 mark)
2biv) Absolute error in representing 17.143 is __0.002375__ (1 mark)

2c) 17.143 in IEEE754 format is 0x418924DD__ (3 marks)

Q2 Total: _____ / 10

Question 3. (5 MARKS)

3a. (1 mark)

```
x &= 0;
while (x < 5) {
    ctr /= 2;
    x++;
}
```

3b. (1 mark)

```
x = 10;
while (x >= 5) {
    ctr /= 2;
    x--;
}
```

3c. (3 marks)

```
while(ctr < v) {
    if(A[ctr] >= B[ctr]) {
        temp = A[ctr];
        A[ctr] = B[ctr];
        B[ctr] = temp;
    }
    ctr++;
}
```

Q3 Total: _____ / 5

Question 4. (9 MARKS)

4a. Number of times: _____9_____ (2 marks)

4b. Number of times: _____1_____ (2 marks)

4c. Number of instructions: _____ 69_____ (2 marks)

4d. Number of unique bytes: _____18_____ (3 marks)

Q4 Total: _____ / 9

Total Marks: _____ / 37 (To be filled by TA only)