جواب سوال ۱

(1)

■ $(255)_{10} = (\overset{?}{11111111})_2 = (\overset{?}{377})_8 = (\overset{?}{FF})_{16}$

• $255 = 2^0 + 2^1 + 2^2 + 2^3 + 2^4 + 2^5 + 2^6 + 2^7 \Rightarrow (1111111)_2$
$1 + 2 + 4 + 8 + 16 + 32 + 64 + 128$

• $255 \mid 8$ → $31 \mid 8$ → $7 \mid 3$ → 7

• $255 \mid 16$ → $15 \mid F$ → 15 → F

■ $(31)_{10} = (\overset{?}{11111})_2 = (\overset{?}{37})_8 = (\overset{?}{1F})_{16}$

• $31 = 2^0 + 2^1 + 2^2 + 2^3 + 2^4 \Rightarrow (11111)_2$
$1 + 2 + 4 + 8 + 16$

• $31 \mid 8$ → $24 \mid 3$ → 7

• $31 \mid 16$ → $15 \mid 1$ → $15 : F$

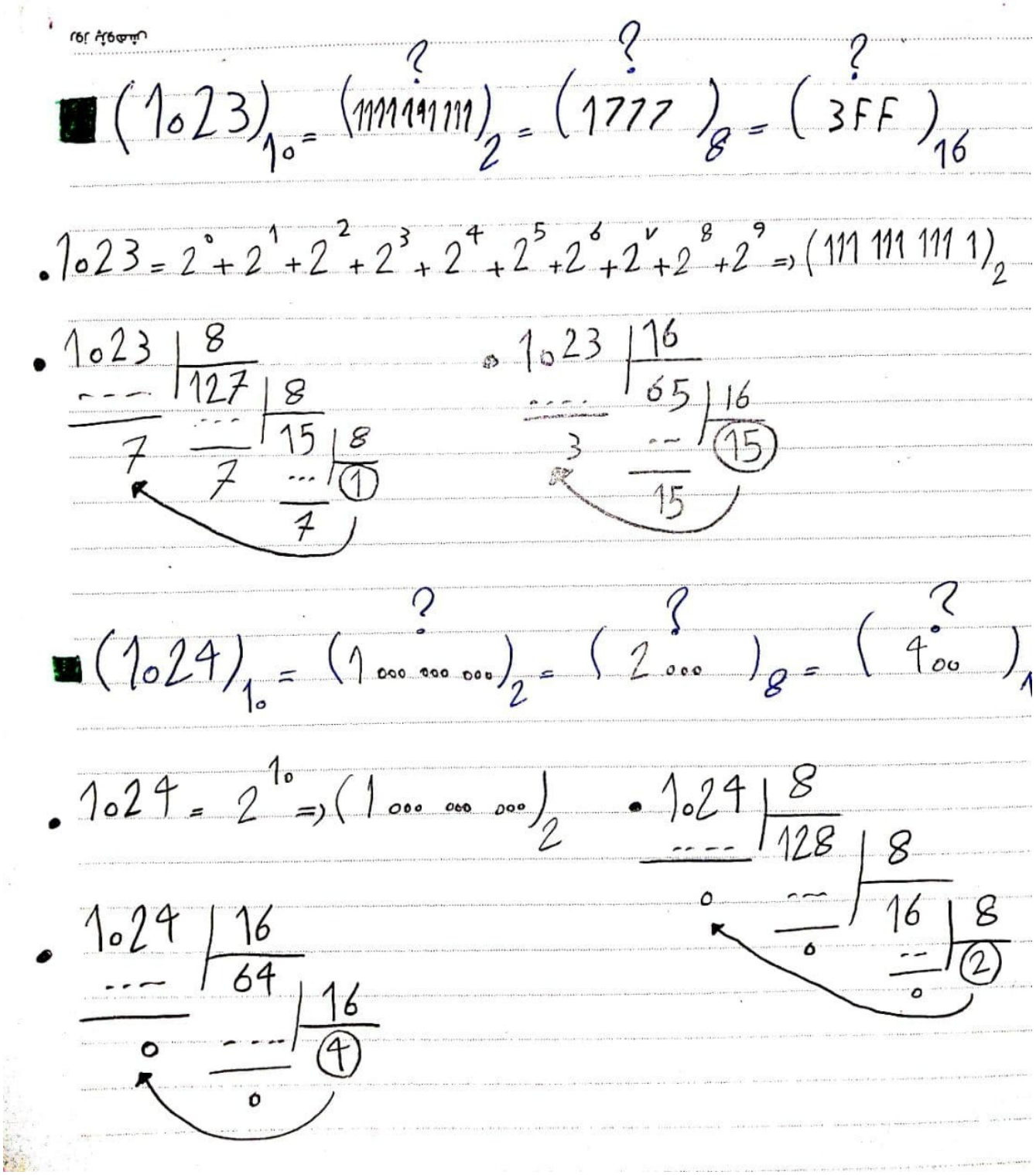
■ $(64)_{10} = (\overset{?}{1000000})_2 = (\overset{?}{100})_8 = (\overset{?}{40})_{16}$

• $64 = 2^6 \Rightarrow (1000000)_2$ • $64 = 8^2 \Rightarrow (100)_8$

• $64 \mid 16$ → $64 \mid 4$ → 0

Wednesday

ادامه جواب سوال ۱



جواب سوال ۲

- $(1100100)_2 = (?)_{10}$ (2)

$2^2 + 2^5 + 2^6 = 100$

- $(215)_8 = (?)_{10}$

$5 \times 8^0 + 1 \times 8^1 + 2 \times 8^2 = 5 + 8 + 128 = (141)_{10}$

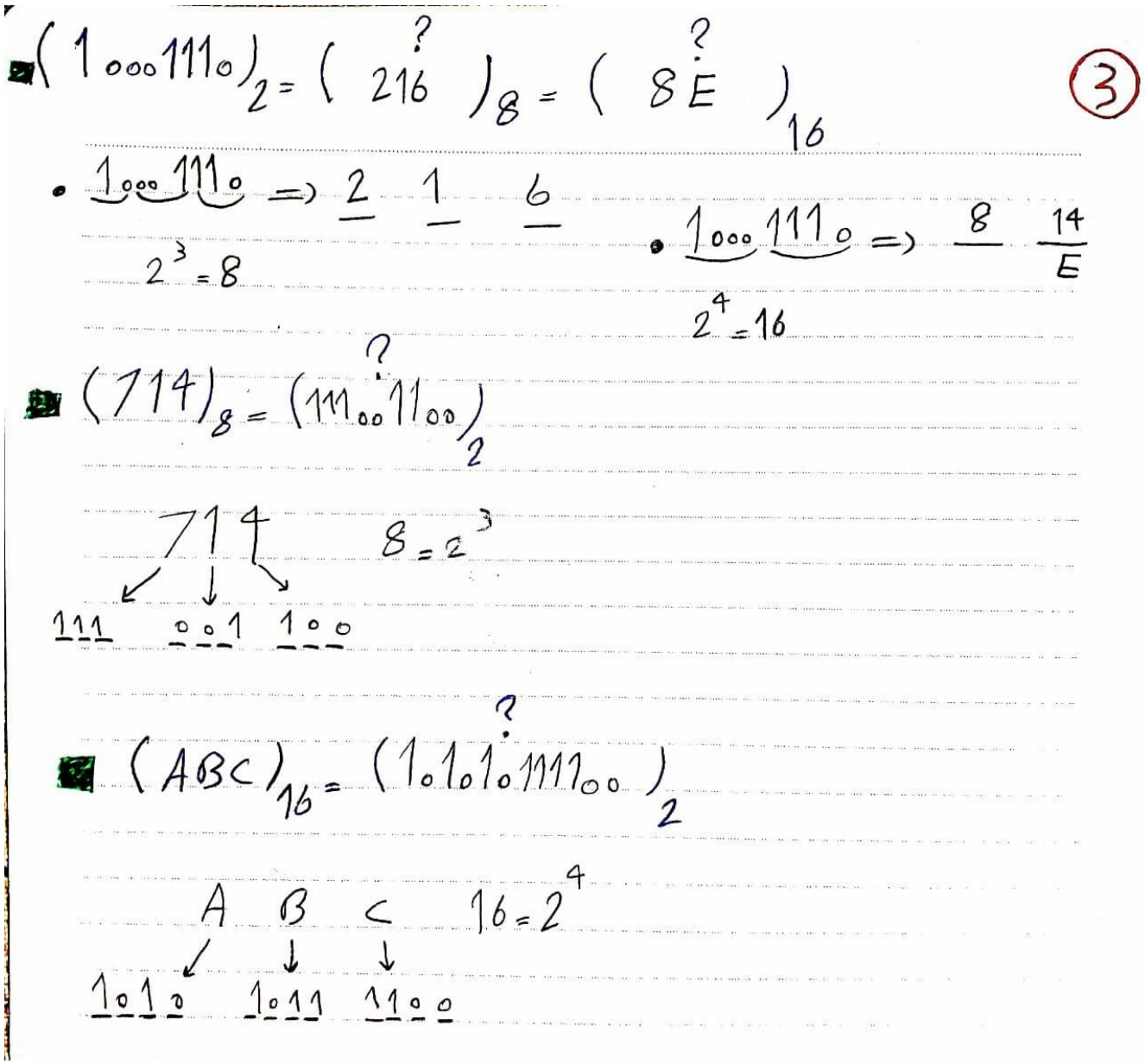
- $(1BA2)_{16} = (?)_{10}$

$2 \times 16^0 + (A) \times 16^1 + (B) \times 16^2 + 1 \times 16^3$

$10 \times 16 \quad 11 \times$

$2 + 160 + 2816 + 4096 = 7074$

جواب سوال ۳


(1000 1110)2 = (216)8 = (8E)16
3
1000 1110 => 2 1 6
2^3 = 8
1000 1110 => 8 14 E
2^4 = 16
(714)8 = (111 001 100)2
714
8 = 2^3
111 001 100
(ABC)16 = (1010 1011 1100)2
A B C
16 = 2^4
1010 1011 1100

جواب سوال ۴

test1.c

home > amin > Desktop > coding > test1.c > main()

```c
#include <stdio.h>

int main(){

    int input;
    float tmp;
    printf("Enter Number: ");
    scanf("%d", &input);
    tmp = input / 8.0;
    printf("%.4f\n", tmp);

return 0;
}
```

```
0.00amin@ai:~/Desktop/coding$ gcc test1.c
amin@ai:~/Desktop/coding$ ./a.out
Enter Number: 8
1.00
amin@ai:~/Desktop/coding$ gcc test1.c
amin@ai:~/Desktop/coding$ ./a.out
Enter Number: 10
1.25
amin@ai:~/Desktop/coding$ ./a.out
Enter Number: 11
1.38
amin@ai:~/Desktop/coding$ ./a.out
Enter Number: 0
0.00
amin@ai:~/Desktop/coding$ ./a.out
Enter Number: -1
-0.12
amin@ai:~/Desktop/coding$ gcc test1.c
amin@ai:~/Desktop/coding$ ./a.out
Enter Number: 11
1.3750
amin@ai:~/Desktop/coding$ ./a.out
Enter Number: -1
-0.1250
amin@ai:~/Desktop/coding$ ./a.out
Enter Number: 100
12.5000
amin@ai:~/Desktop/coding$
```

جواب سوال ۵

test1.c

home > amin > Desktop > coding > test1.c > main(int, char * [])

```c
#include <stdio.h>
#include <stdlib.h>

int main(int argc, char *argv[]){

    float x = 0;
    float avr = 0;
    for (int i = 1; i < argc; i++){

        x += atoi(argv[i]); // Casting String To Integer (Google)
        avr = x / (argc - 1);
    }
    printf("Output: %.2f\n", avr);

return 0;
}
```

Activities Terminal

```
amin@ai:~/Desktop/coding$ ./a.out 1 23 4 52 12 54
Output: 24.33
amin@ai:~/Desktop/coding$
```

جواب سوال 6

home > amin > Desktop > coding > C test1.c > main()

```c
#include <stdio.h>

int main(){

    float input;
    int int_input;
    scanf("%f", &input);
    printf("Input : %f\n", input);
    int_input = input;
    printf("Output: \n");
    printf("1- %.1f\n", input);
    printf("2- %.4f\n", input);
    printf("3-   %.2f\n", input); // printf("%2.2f\n", input);
    printf("4- %d\n", int_input);
    printf("5- %e\n", input);

return 0;
}
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

```
amin@ai:~/Desktop/coding$ cd "/home/amin/Desktop/coding/" && gcc test1.c -o test1 && "/home/amin/Desktop/coding/"test1
234.4561
Input : 234.456100
Output:
1- 234.5
2- 234.4561
3-   234.46
4- 234
5- 2.344561e+02
amin@ai:~/Desktop/coding$
```

جواب سوال ۷

test1.c

home > amin > Desktop > coding > test1.c > main()

```c
#include <stdio.h>

int main(){

    int i = 32;
    char c = 'd';
    int sum = c - i;
    printf("Value of sum : %d\n", sum );
    printf("Value of sum : %c\n", sum );

return 0;
}
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

```
cd "/home/amin/Desktop/coding/" && gcc test1.c -o
amin@ai:~$ cd "/home/amin/Desktop/coding/" && gcc
Value of sum : 68
Value of sum : D
amin@ai:~/Desktop/coding$
```

در اینجا یک متغیر i=32 و کاراکتر d داریم که عدد اسکی

آن d=100 است. که تفریق این دو را داخل sum=100-32 ریخته‌ایم.

Print sum:

① %d => 68

② %c => D => 68 کد اسکی D برابر