

5- #include <stdio.h>

```
int main() {
```

```
    int L, a, b, c, d;
```

```
    int n1, n2;
```

```
    printf("Enter the limit (max cube root): ");
    scanf("%d", &L);
```

```
    printf("Ramanujan Numbers up to limit %d:\n", L);
```

```
    for (a = 1; a <= L; a++) {
```

```
        for (b = a; b <= L; b++) {
```

```
            n1 = a * a * a + b * b * b;
```

```
            for (c = a + 1; c <= L; c++) {
```

```
                for (d = c; d <= L; d++) {
```

```
                    n2 = c * c * c + d * d * d;
```

```
                    if (n1 == n2) {
```

```
                        printf("%d = %d^3 + %d^3 = %d\n"
                               , n1, a, b, c, d);
```

```
}
```

```
} return 0;
```

Teacher's Signature

main.c

Go Forward (^& -)

```
C main.c > main()
1 #include <stdio.h>
2
3 int main() {
4     int L, a, b, c, d;
5     int n1, n2;
6
7     printf("Enter the limit (max cube root value): ");
8     scanf("%d", &L);
9
10    printf("Ramanujan Numbers up to limit %d:\n", L);
11
12    // Check all combinations of cubes
13    for (a = 1; a <= L; a++) {
14        for (b = a; b <= L; b++) {
15            n1 = a*a*a + b*b*b; // First sum of cubes
16
17            for (c = a+1; c <= L; c++) {
18                for (d = c; d <= L; d++) {
19                    n2 = c*c*c + d*d*d; // Second sum of cubes
20
21                    if (n1 == n2) {
22                        printf("%d = %d^3 + %d^3 = %d^3 + %d^3\n",
23                               |n1, a, b, c, d);
24
25                }
26            }
27        }
28    }
29 }
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

● abhaygupta@Abhays-MacBook-Air main.c % gcc main.c
● abhaygupta@Abhays-MacBook-Air main.c % ./a.out

Enter the limit (max cube root value): 45

Ramanujan Numbers up to limit 45:

1729 = 1^3 + 12^3 = 9^3 + 10^3

4104 = 2^3 + 16^3 = 9^3 + 15^3

13832 = 2^3 + 24^3 = 18^3 + 20^3

39312 = 2^3 + 34^3 = 15^3 + 33^3

46683 = 3^3 + 36^3 = 27^3 + 30^3

32832 = 4^3 + 32^3 = 18^3 + 30^3

40033 = 9^3 + 34^3 = 16^3 + 33^3

20583 = 10^3 + 27^3 = 19^3 + 24^3

65728 = 12^3 + 40^3 = 31^3 + 33^3

64232 = 17^3 + 39^3 = 26^3 + 36^3

abhaygupta@Abhays-MacBook-Air main.c %

Ln 23, Col 17

