Homework 01

Submission rules:

- Write the code for questions 1 to 5 in a single C file named *"name_studentID_homework01.c"*. For example: *"arya_010203_homework01.c"*.
- Use printf statements to clearly separate each question's code. For example:

```
printf("*****-----Question 1-----*****\n");
// Code for Question 1
```

- Provide comments for each line of code to explain its purpose or functionality. For example:

```
// Calculate the number of each denomination
int note100k = amount / 100000;
```

- Ensure the code and comments are original, avoiding direct copying from external sources. If two or more students have the same code and comments, the score will be divided equally.
- Example:

arya_010203_homework01.c

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

int main()
{
    printf("Question 1\n");

    // PUT YOUR CODE HERE

    printf("Question 2\n");

    // PUT YOUR CODE HERE

    printf("Question 3\n");
    //...
    //...
    //...
    //...
    //...
    printf("Question 5\n");

    return 0;
}
```

Question 1:

Write a C program that prompts the user to enter an amount in Rupiah and then calculates the minimum number of banknotes needed to make up that amount, using banknotes with denominations of 100,000, 50,000, 20,000, 10,000, 5,000, 2,000, 1,000, 500, and 100 Rupiah.

```
Banknotes needed: 98600
100,000 Rupiah notes: 0
50,000 Rupiah notes: 1
20,000 Rupiah notes: 2
10,000 Rupiah notes: 0
5,000 Rupiah notes: 1
2,000 Rupiah notes: 1
1,000 Rupiah notes: 1
500 Rupiah notes: 1
100 Rupiah notes: 1
```

Question 2:

Create a C program that takes a three-digit number as user input and then prints the sum of its digits.

```
Enter a three-digit number: 345
The sum of digits is: 12
```

Question 3:

Develop a C program that checks if a given year is a leap year or not. Prompt the user to enter a year, and then display whether it is a leap year or not.

```
Enter a year: 2020
2020 is a leap year.
```

Question 4:

Write a C program that takes five integers from the user and determines the average of the three largest numbers.

```
Enter five integers: 18 24 9 15 30
The average of the three largest numbers is: 24
```

Question 5:

Implement a C program that asks the user to input two times in the format HH:MM:SS and calculates the time difference between them.

```
Enter the first time (HH:MM:SS): 12:30:45
Enter the second time (HH:MM:SS): 14:15:20
The time difference is 1 hour, 44 minutes, and 35 seconds.
```