מטלה 5 – פונקציות, קבועים

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שאלה 1

```c
int sumOfDivide(int number);
#include <stdio.h>
int main()
{
    int number, res;
    printf("Insert a number:\n");
    scanf("%d", &number);
    res = sumOfDivide(number);
    printf("The sum of the divide of this number is:
    %d\n", res);
}
int sumOfDivide(int number)
{
    int sum = 0;
    for (int i = 1; i < number; i++)
    {
        if((number % i) == 0)
        {
            sum = sum + i;
        }
    }
    return sum;
}
```

```
Insert a number:
220
The sum of the divide of this number is: 284
Program ended with exit code: 0
```

```c
const int one = 1;
const int zero = 0;

#include <stdio.h>
int sumOfDivide(int number1, int number2);

int main()
{
    int number1, number2, res;
    printf("Insert a number1:\n");
    scanf("%d", &number1);
    printf("Insert a number2:\n");
    scanf("%d", &number2);
    res = sumOfDivide(number1, number2);
    if (res == one)
    {
        printf("The numbers is friends\n");
    }
    else
    {
        printf("The numbers is not friends\n");

    }
}
int sumOfDivide(int number1, int number2)
{
    int sum1 = 0, sum2 = 0;
    for (int i = 1; i < number1; i++)
    {
        if((number1 % i) == 0)
        {
            sum1 = sum1 + i;
        }
    }
    for (int j = 1; j < number2; j++)
    {
        if ((number2 % j) == 0)
        {
            sum2 = sum2 + j;
        }

    }
    if ((sum1 == number2) && (sum2 == number1))
    {
        return one;
    }
    else
```

```
{
    return zero;
}
```

```
Insert a number1:
220
Insert a number2:
284
The numbers is friends
Program ended with exit code: 0
```

```
Insert a number1:
230
Insert a number2:
320
The numbers is not friends
Program ended with exit code: 0
```

```c
#include <stdio.h>

int dateCheck(int day, int month, int year);
int checkYear(int year);
int main()
{
    int day, month, year;
    printf("Please enter the day:\n");
    scanf("%d", &day);
    printf("Please enter the mounth:\n");
    scanf("%d", &month);
    printf("Please enter the year:\n");
    scanf("%d", &year);
    if (day < 1 || month < 1 || year < 1)
        printf("The date is not valid\n");
    else
    {
        if (dateCheck(day, month, year) == 1)
            printf("The date is valid\n");
        else
            printf("The date is not valid\n");
    }
}

int dateCheck(int day, int month, int year)
{
    int check=0;
    switch (month)
    {
    case 1:
    case 3:
    case 5:
    case 7:
    case 8:
    case 10:
    case 12:

        if (day <= 31)
            check = 1;
        break;

    case 4:
    case 6:
    case 9:
    case 11:
        if (day <= 30)
            check = 1;
```

```
                break;
        case 2:
            if (checkYear(year)==1)
            {
                if (day <= 29)
                    check = 1;
            }
            else
            {
                if (day <= 28)
                    check = 1;
            }
            break;
        default:
            break;
        }
        return check;
    }

    int checkYear(int year)
    {
        int check = 1;
        if (year % 4 == 0 && year % 100 != 0)
            check = 1;
        else
        {
            if (year % 400 == 0)
                check = 1;
            else
                check = 0;
        }
        return check;
    }
```

```
Please enter the day:
29
Please enter the mounth:
2
Please enter the year:
2000
The date is valid
Program ended with exit code: 0
```

```
Please enter the day:
31
Please enter the mounth:
4
Please enter the year:
2000
The date is not valid
Program ended with exit code: 0
```