ព្រះរាជាណាចក្រកម្ពុជា

ជាតិ សាសនា ព្រះមហាក្សត្រ

Institute of technology of Cambodia

Department of Information and communication Engineering

The lesson taking about basic of array.

TP5-Loop (for loop while loop and do while loop)

TP: Algorithm and Programming

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Contents

Problem1: Write a c program ask user for number and story in an array. Display all number in array.

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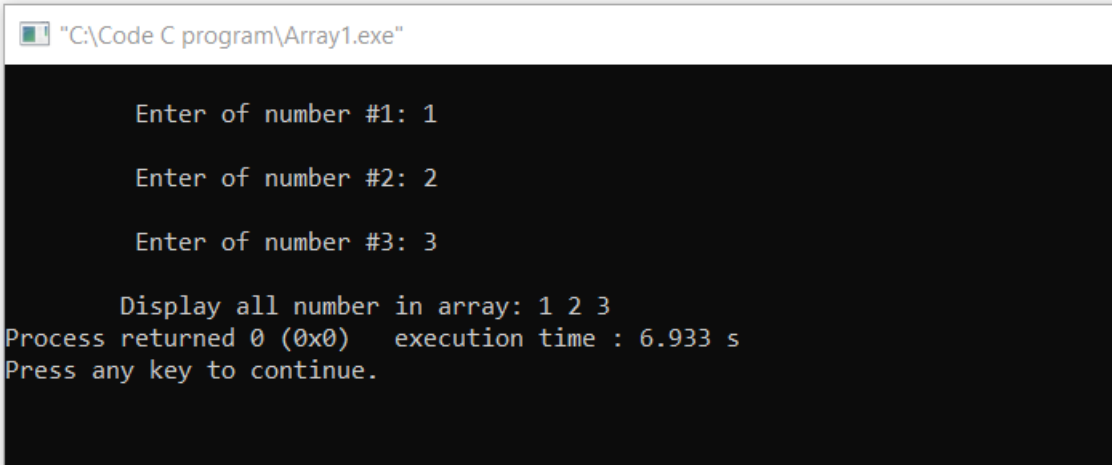
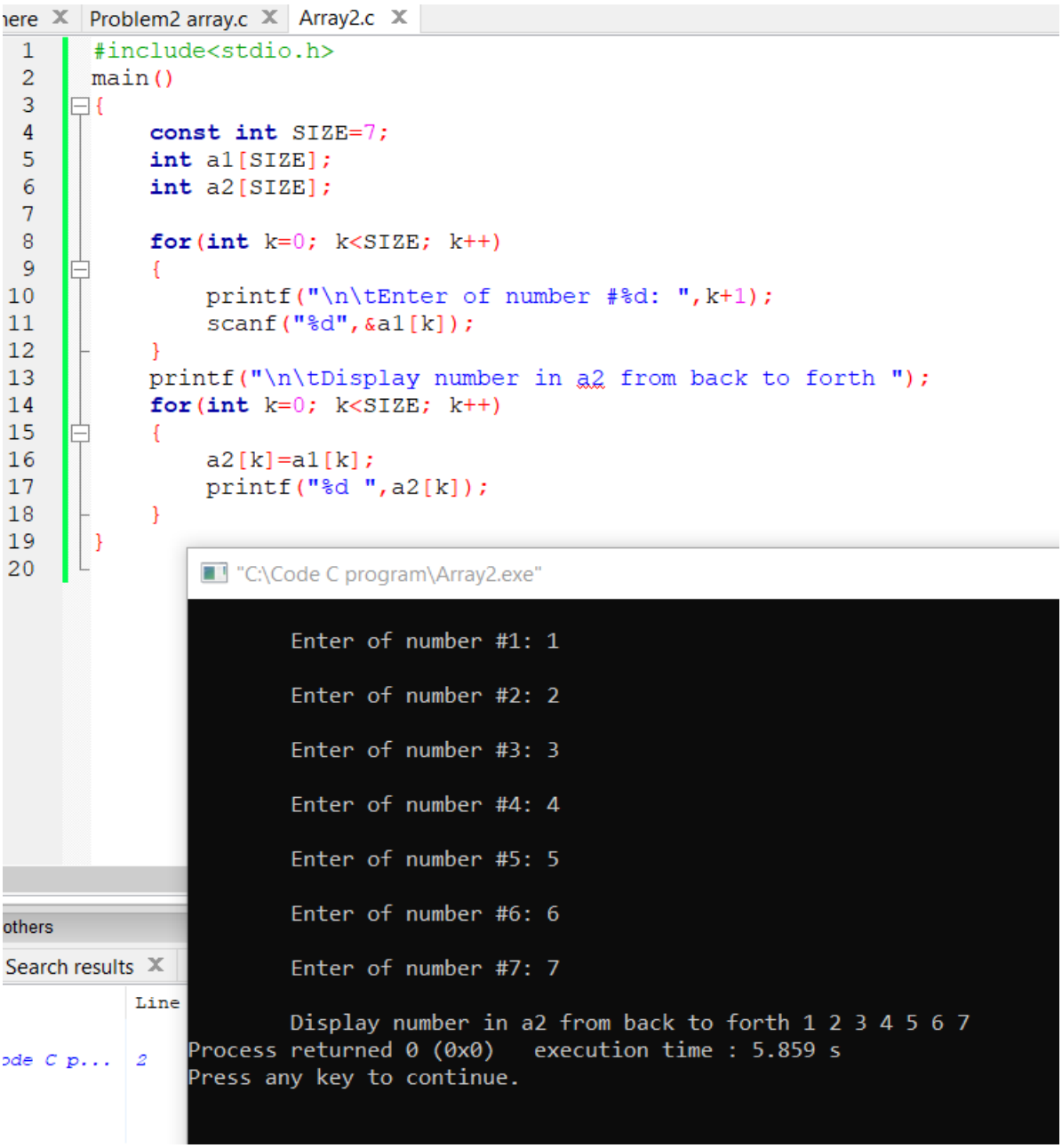
```c
#include<stdio.h>
main()
{
    const int SIZE=3;
    int number[SIZE];
    for(int k=0; k<SIZE; k++)
    {
        printf("\n\t Enter of number #%d: ",k+1);
        scanf("%d",&number[k]);
    }
    printf("\n\tDisplay all number in array: ");
    for(int k=0; k<SIZE; k++)
    {
        printf("%d ",number[k]);
    }
}
```



Problem2: Write a c program to stored 7 number in array call a1 created a new array call a2. Make a2 has the data as same as a1(copy a1 to a2). Display number in a2 from back to forth.



Problem3: Write a c program to store 5 number in an array (ask input from user). Find sum of all number in array and also average. Display all students information on screen.

```c

#include<stdio.h>
main()
{
    const int SIZE=5;
    int number[SIZE];
    printf("\n\t Display sum and average of all numbers.\n");
    for(int k=0; k<SIZE; k++)
    {
        printf("\n\tEnter of number %d: ",k+1);
        scanf("%d",&number[k]);
    }
    float avg,sum=0;

    for(int p=0; p<SIZE; p++)
    {
        sum=sum+number[p];
    }
    avg=sum/5;

    printf("\n\t summation of number: %.2f",sum);
    printf("\n\t average of number: %.2f",avg);

}
```

```
"C:\Code C program\Array3.exe"

        Display sum and average of all numbers.

       Enter of number 1: 10

       Enter of number 2: 20

       Enter of number 3: 30

       Enter of number 4: 40

       Enter of number 5: 50

        summation of number: 150.00
        average of number: 30.00
Process returned 0 (0x0)   execution time : 9.313 s
Press any key to continue.
```

Problem4: Write a program in c to store data of 5 students. Each student has name score email and phone number. The program ask user for information of the 5 students. Display all students information on screen.

```c
#include<stdio.h>
main()
{
     const int SIZE=5;
    char names[SIZE][20];
    int scores[SIZE];
    char email[SIZE][20];
    int phone_number[SIZE];

    for(int k=0; k<SIZE ; k++)
    {
        printf("\n\t Information all students #%d\n",k+1);
        printf("Enter your name: ");scanf("%s",&names[k]);
        printf("Enter your scores: ");scanf("%d",&scores[k]);
        printf("Enter your email: ");scanf("%s",&email[k]);
        printf("Enter your phone number: ");scanf("%d",&phone_number[k]);
    }
    printf("\n\t**Display all students is information.\n ");
    for(int k=0; k<SIZE; k++)
    {
        printf("\n\t%.2d\t%s\t%d\t%s\t%d\n",k+1,names[k],scores[k],email[k],phone_number[k]);
    }
}
```

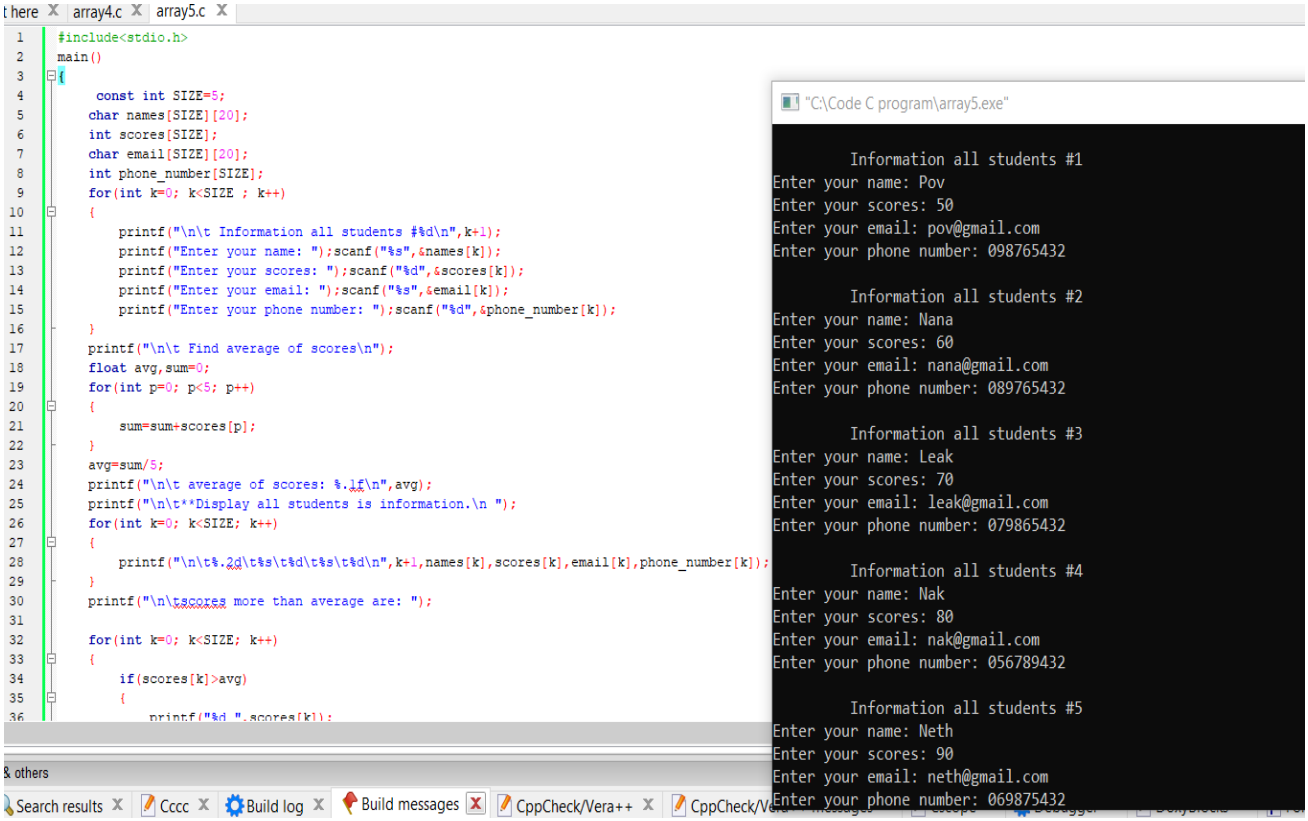
```
"C:\Code C program\array4.exe"

        Information all students #1
Enter your name: Dina
Enter your scores: 50
Enter your email: dina@gmail.com
Enter your phone number: 098765432

        Information all students #2
Enter your name: Sing
Enter your scores: 60
Enter your email: sing@gmail.com
Enter your phone number: 089765432

        Information all students #3
Enter your name: Rom
Enter your scores: 70
Enter your email: rom@gmail.com
Enter your phone number: 078965432

        Information all students #4
Enter your name: Nang
Enter your scores: 80
Enter your email: nang@gmail.com
Enter your phone number: 069875432

        Information all students #5
Enter your name: Horng
Enter your scores: 90
Enter your email: horng@gmail.com
Enter your phone number: 067895432
```

```
s & others
Search results | Cccc | Build log | Build messages | CppCheck/Vera++

ile                Line  Message
                         === Build file: "no target" in "no project" (compiler: unknown) ===
:\Code C p...      2     warning: return type defaults to 'int' [-Wimplicit-int]
```

```c
#include<stdio.h>
main()
{
     const int SIZE=5;
    char names[SIZE][20];
    int scores[SIZE];
    char email[SIZE][20];
    int phone_number[SIZE];

    for(int k=0; k<SIZE ; k++)
    {
        printf("\n\t Information all students #%d\n",k+1);
        printf("Enter your name: ");scanf("%s",&names[k]);
        printf("Enter your scores: ");scanf("%d",&scores[k]);
        printf("Enter your email: ");scanf("%s",&email[k]);
        printf("Enter your phone number: ");scanf("%d",&phone_number[k]);
    }
    printf("\n\t**Display all students is information.\n ");
    for(int k=0; k<SIZE; k++)
    {
        printf("\n\t%.2d\t%s\t%d\t%s\t%d\n",k+1,names[k],scores[k],email[k],phone_number[k]);
    }
}
```

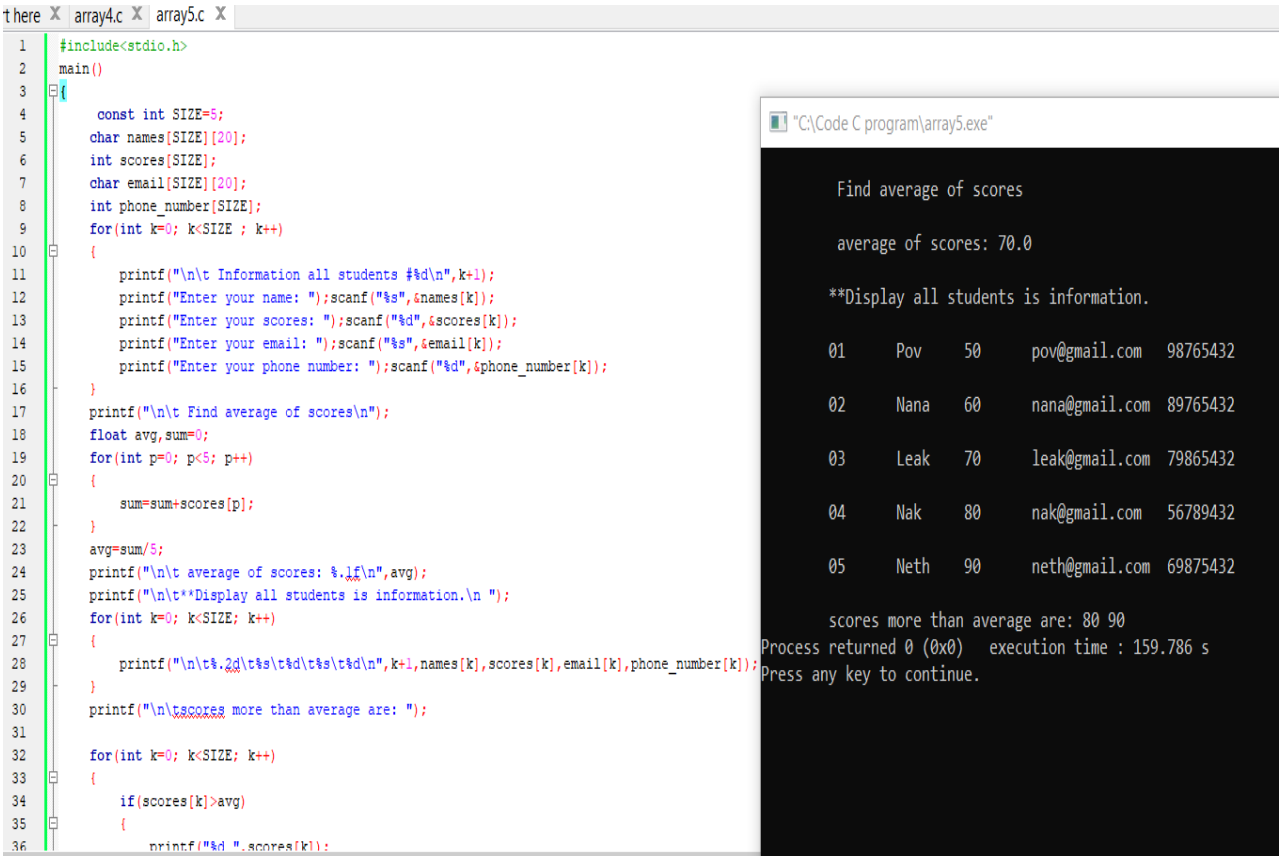
```
"C:\Code C program\array4.exe"

        **Display all students is information.

        01      Dina    50      dina@gmail.com  98765432

        02      Sing    60      sing@gmail.com  89765432

        03      Rom     70      rom@gmail.com   78965432

        04      Nang    80      nang@gmail.com  69875432

        05      Horng   90      horng@gmail.com 67895432

Process returned 0 (0x0)   execution time : 182.565 s
Press any key to continue.
```

Promlem5: Same as problem#4. Find average score. The program display information of all students who got scores more than average.



```c
#include<stdio.h>
main()
{
     const int SIZE=5;
    char names[SIZE][20];
    int scores[SIZE];
    char email[SIZE][20];
    int phone_number[SIZE];
    for(int k=0; k<SIZE ; k++)
    {
        printf("\n\t Information all students #%d\n",k+1);
        printf("Enter your name: ");scanf("%s",&names[k]);
        printf("Enter your scores: ");scanf("%d",&scores[k]);
        printf("Enter your email: ");scanf("%s",&email[k]);
        printf("Enter your phone number: ");scanf("%d",&phone_number[k]);
    }
    printf("\n\t Find average of scores\n");
    float avg,sum=0;
    for(int p=0; p<5; p++)
    {
        sum=sum+scores[p];
    }
    avg=sum/5;
    printf("\n\t average of scores: %.1f\n",avg);
    printf("\n\t**Display all students is information.\n ");
    for(int k=0; k<SIZE; k++)
    {
        printf("\n\t%.2d\t%s\t%d\t%s\t%d\n",k+1,names[k],scores[k],email[k],phone_number[k]);
    }
    printf("\n\tscores more than average are: ");

    for(int k=0; k<SIZE; k++)
    {
        if(scores[k]>avg)
        {
            printf("%d ",scores[k]);
```

```
"C:\Code C program\array5.exe"

        Information all students #1
Enter your name: Pov
Enter your scores: 50
Enter your email: pov@gmail.com
Enter your phone number: 098765432

        Information all students #2
Enter your name: Nana
Enter your scores: 60
Enter your email: nana@gmail.com
Enter your phone number: 089765432

        Information all students #3
Enter your name: Leak
Enter your scores: 70
Enter your email: leak@gmail.com
Enter your phone number: 079865432

        Information all students #4
Enter your name: Nak
Enter your scores: 80
Enter your email: nak@gmail.com
Enter your phone number: 056789432

        Information all students #5
Enter your name: Neth
Enter your scores: 90
Enter your email: neth@gmail.com
Enter your phone number: 069875432
```



```c
#include<stdio.h>
main()
{
     const int SIZE=5;
    char names[SIZE][20];
    int scores[SIZE];
    char email[SIZE][20];
    int phone_number[SIZE];
    for(int k=0; k<SIZE ; k++)
    {
        printf("\n\t Information all students #%d\n",k+1);
        printf("Enter your name: ");scanf("%s",&names[k]);
        printf("Enter your scores: ");scanf("%d",&scores[k]);
        printf("Enter your email: ");scanf("%s",&email[k]);
        printf("Enter your phone number: ");scanf("%d",&phone_number[k]);
    }
    printf("\n\t Find average of scores\n");
    float avg,sum=0;
    for(int p=0; p<5; p++)
    {
        sum=sum+scores[p];
    }
    avg=sum/5;
    printf("\n\t average of scores: %.1f\n",avg);
    printf("\n\t**Display all students is information.\n ");
    for(int k=0; k<SIZE; k++)
    {
        printf("\n\t%.2d\t%s\t%d\t%s\t%d\n",k+1,names[k],scores[k],email[k],phone_number[k]);
    }
    printf("\n\tscores more than average are: ");

    for(int k=0; k<SIZE; k++)
    {
        if(scores[k]>avg)
        {
            printf("%d ",scores[k]);
```

```
"C:\Code C program\array5.exe"

        Find average of scores

        average of scores: 70.0

       **Display all students is information.

       01      Pov     50      pov@gmail.com   98765432

       02      Nana    60      nana@gmail.com  89765432

       03      Leak    70      leak@gmail.com  79865432

       04      Nak     80      nak@gmail.com   56789432

       05      Neth    90      neth@gmail.com  69875432

       scores more than average are: 80 90
Process returned 0 (0x0)   execution time : 159.786 s
Press any key to continue.
```