Institute of Technology of Cambodia

Department of Information and Communication Engineering (GIC)

Assignment6

Lab05-Work with Loop (part II)

Lecturer	:	Bou Channa
Subject	:	Algorithms and Programming (TP)

Student	:	Heang Sopagna
ID	:	e20180259
Group	:	GIC-A

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25. C programming.c | 26. C programming.c | 27. C programming.c | 28. C programming.c | 29. C programming.c | 30. C programming.c

```c
#include<stdio.h>
main(){
    int n,i;
    printf("Enter the n number: ");
    scanf("%d",&n);
    i=1;
    while(i<=n){
        printf("%d ",i);
        i=i+1;
    }

}
```

"D:\school\Year3\2. Algorithm & Programming (S1)\TP\25. C programming.exe"

```
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61
62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90
91 92 93 94 95 96 97 98 99 100
Process returned 0 (0x0)   execution time : 2.072 s
Press any key to continue.
```

25. C programming.c | 26. C programming.c | 27. C programming.c | 28. C programming.c | 29. C programming.c | 30. C programming.c

```c
#include<stdio.h>
main(){

    int n,i;
    printf("Enter the n number: ");
    scanf("%d",&n);
    i=n;
    while(i>0){
        printf("%d ",i);
        i=i-1;
    }

}
```

"D:\school\Year3\2. Algorithm & Programming (S1)\TP\26. C programming.exe"

```
100 99 98 97 96 95 94 93 92 91 90 89 88 87 86 85 84 83 82 81 80 79 78 77 76 75 74
 73 72 71 70 69 68 67 66 65 64 63 62 61 60 59 58 57 56 55 54 53 52 51 50 49 48 47
 46 45 44 43 42 41 40 39 38 37 36 35 34 33 32 31 30 29 28 27 26 25 24 23 22 21 20
 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1
Process returned 0 (0x0)   execution time : 3.006 s
Press any key to continue.
```

25. C programming.c | 26. C programming.c | 27. C programming.c | 28. C programming.c | 29. C programming.c | 30. C programming.c

```c
#include<stdio.h>
main(){
    int a=96,b=121;
    char chr;
    while(a<=b){
        a=a+1;
        chr=a;
        printf("%c ",chr);
    }

}
```

```
"D:\school\Year3\2. Algorithm & Programming (S1)\TP\27. C programming.exe"
a b c d e f g h i j k l m n o p q r s t u v w x y z
Process returned 0 (0x0)   execution time : 0.017 s
Press any key to continue.
```

25. C programming.c | 26. C programming.c | 27. C programming.c | 28. C programming.c | 29. C programming.c | 30. C programming.c

```c
#include<stdio.h>
main(){
    int a=0,b=100;
    while(a<=100){
        a=a+1;
        if(a%2==0){
            printf("%d ",a);
        }
    }

}
```

```
"D:\school\Year3\2. Algorithm & Programming (S1)\TP\28. C programming.exe"
2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 5
6 58 60 62 64 66 68 70 72 74 76 78 80 82 84 86 88 90 92 94 96 98 100
Process returned 0 (0x0)   execution time : 0.031 s
Press any key to continue.
```

25. C programming.c | 26. C programming.c | 27. C programming.c | 28. C programming.c | 29. C programming.c | 30. C programming.c

```c
#include<stdio.h>
main(){
    int a=0;
    while(a<=99){
        a=a+1;
        if(a%2==1){
            printf("%d ",a);
        }
    }

}
```

```
"D:\school\Year3\2. Algorithm & Programming (S1)\TP\29. C programming.exe"
1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 37 39 41 43 45 47 49 51 53
 55 57 59 61 63 65 67 69 71 73 75 77 79 81 83 85 87 89 91 93 95 97 99
Process returned 0 (0x0)   execution time : 0.062 s
Press any key to continue.
```

25. C programming.c | 26. C programming.c | 27. C programming.c | 28. C programming.c | 29. C programming.c | 30. C programming.c

```c
#include<stdio.h>
main(){

    int num,i=0;
    printf("Enter a number: "); scanf("%d",&num);

    while(num>0){
        num=num/10;
        i=i+1;
    }
    printf("The number have %d digits",i);
}
```

```
"D:\school\Year3\2. Algorithm & Programming (S1)\TP\30. C programming.exe"
Enter a number: 100
The number have 3 digits
Process returned 0 (0x0)   execution time : 2.034 s
Press any key to continue.
```

31. C programming.c | 32. C programming.c | 33. C programming.c | 34. C programming.c | 35. C programming.c | 36. C programming.c

```c
#include<stdio.h>
main(){
    int num,last,sum;
    printf("Enter a number: "); scanf("%d",&num);

    last=num%10;
    while(num>=10){
        num=num/10;
    }
    sum=num+last;
    printf("The sum of first digit and last digit of the number is: %d",sum);
}
```

```
"D:\school\Year3\2. Algorithm & Programming (S1)\TP\31. C programming.exe"
Enter a number: 100
The sum of first digit and last digit of the number is: 1
Process returned 0 (0x0)   execution time : 2.235 s
Press any key to continue.
```

31. C programming.c | 32. C programming.c | 33. C programming.c | 34. C programming.c | 35. C programming.c | 36. C programming.c

```c
#include<stdio.h>
main(){
    int num,i,sum=0;
    printf("Enter a number: "); scanf("%d",&num);

    while(num>0){
        i=num%10;
        num=num/10;
        sum=sum+i;
    }
    printf("The sum of digit of the enter number is: %d",sum);
}
```

```
"D:\school\Year3\2. Algorithm & Programming (S1)\TP\32. C programming.exe"
Enter a number: 100
The sum of digit of the enter number is: 1
Process returned 0 (0x0)   execution time : 3.468 s
Press any key to continue.
```

31. C programming.c | 32. C programming.c | 33. C programming.c | 34. C programming.c | 35. C programming.c | 36. C programming.c

```c
#include<stdio.h>
main(){
    int num,i,product=1;
    printf("Enter a number: "); scanf("%d",&num);

    while(num>0){
        i=num%10;
        num=num/10;
        product=product*i;
    }
    printf("The product of digit of the enter number is %d",product);
}
```

```
"D:\school\Year3\2. Algorithm & Programming (S1)\TP\33. C programming.exe"
Enter a number: 100
The product of digit of the enter number is 0
Process returned 0 (0x0)   execution time : 2.419 s
Press any key to continue.
```

31. C programming.c | 32. C programming.c | 33. C programming.c | 34. C programming.c | 35. C programming.c | 36. C programming.c

```c
#include<stdio.h>
main(){
    int num,i,reverse=0;
    printf("Enter a number: ");
    scanf("%d",&num);

    while(num>0){
        i=num%10;
        reverse=(reverse*10)+i;
        num=num/10;
    }
    printf("The reverse of the enter number is: %d",reverse);
}
```

```
"D:\school\Year3\2. Algorithm & Programming (S1)\TP\34. C programming.exe"
Enter a number: 123
The reverse of the enter number is: 321
Process returned 0 (0x0)   execution time : 2.004 s
Press any key to continue.
```

31. C programming.c | 32. C programming.c | 33. C programming.c | 34. C programming.c | 35. C programming.c | 36. C programming.c

```c
#include<stdio.h>
main(){
    int num,i,reverse=0,original;
    printf("Enter a number: ");
    scanf("%d",&num);
    original=num;

    while(num>0){
        i=num%10;
        reverse=(reverse*10)+i;
        num=num/10;
    }
    if(original==reverse){
        printf("The enter number is palindrome number.");
    }
    else{
        printf("The enter number isn't palindrome number.");
    }
}
```

```
"D:\school\Year3\2. Algorithm & Programming (S1)\TP\35. C programming.exe"
Enter a number: 12321
The enter number is palindrome number.
Process returned 0 (0x0)   execution time : 2.068 s
Press any key to continue.
```

31. C programming.c | 32. C programming.c | 33. C programming.c | 34. C programming.c | 35. C programming.c | 36. C programming.c

```c
#include<stdio.h>
main(){
    int num,i,freq[10],j;
    printf("Enter a number: "); scanf("%d",&num);

    for(i=0;i<10;i=i+1){
        freq[i]=0;
    }
    while(num>0){
        i=num%10;
        num=num/10;
        freq[i]=freq[i]+1;
    }
    for(i=0; i<10; i=i+1){
        printf("Frequency of %d = %d\n", i, freq[i]);
    }
}
```

```
"D:\school\Year3\2. Algorithm & Programming (S1)\TP\3
Enter a number: 100
Frequency of 0 = 2
Frequency of 1 = 1
Frequency of 2 = 0
Frequency of 3 = 0
Frequency of 4 = 0
Frequency of 5 = 0
Frequency of 6 = 0
Frequency of 7 = 0
Frequency of 8 = 0
Frequency of 9 = 0

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

37. C programming.c | 38. C programming.c | 39. C programming.c | 40. C programming.c | 41. C programming.c | 42. C programming.c

```c
#include<stdio.h>
main(){
    int num,j,i,rev=0;
    printf("Enter a number: "); scanf("%d",&num);
    while(num>0){
        i=num%10;
        num=num/10;
        rev=(rev*10)+i;
    }
    while(rev>0){
        j=rev%10;
        rev=rev/10;
        switch(j){
            case 0: printf("zero "); break;
            case 1: printf("one "); break;
            case 2: printf("two "); break;
            case 3: printf("three "); break;
            case 4: printf("four "); break;
            case 5: printf("five "); break;
            case 6: printf("six "); break;
            case 7: printf("seven "); break;
            case 8: printf("eight "); break;
            case 9: printf("nine "); break;
        }
    }
}
```

```
"D:\school\Year3\2. Algorithm & Programming (S1)\TP\37. C programming.exe"
Enter a number: 1007
one zero zero seven
Process returned 0 (0x0)   execution time : 3.108 s
Press any key to continue.
```

37. C programming.c | 38. C programming.c | 39. C programming.c | 40. C programming.c | 41. C programming.c | 42. C programming.c | 43. C programming.c | 44. C programming.c

```c
#include<stdio.h>
main(){
    int num=0;
    char chr;

    while(num<=128){
        chr=num;
        printf("'%c' number %d, ",chr,num);
        num++;
    }
}
```

```
"D:\school\Year3\2. Algorithm & Programming (S1)\TP\38. C programming.exe"
' ' number 0, '☺' number 1, '☻' number 2, '♥' number 3, '♦' number 4, '♣' number 5, '♠' number 6, '' number 7, ' number
8, '     ' number 9, '
' number 13, '♫' number 14, '☼' number 15, '►' number 16, '◄' number 17, '↕' number 18, '‼' number 19, '¶' number 20, '§
' number 21, '▬' number 22, '↨' number 23, '↑' number 24, '↓' number 25, '→' number 26, '←' number 27, '∟' number 28, '↔
' number 29, '▲' number 30, '▼' number 31, ' ' number 32, '!' number 33, '"' number 34, '#' number 35, '$' number 36, '%
' number 37, '&' number 38, ''' number 39, '(' number 40, ')' number 41, '*' number 42, '+' number 43, ',' number 44, '-
' number 45, '.' number 46, '/' number 47, '0' number 48, '1' number 49, '2' number 50, '3' number 51, '4' number 52, '5
' number 53, '6' number 54, '7' number 55, '8' number 56, '9' number 57, ':' number 58, ';' number 59, '<' number 60, '=
' number 61, '>' number 62, '?' number 63, '@' number 64, 'A' number 65, 'B' number 66, 'C' number 67, 'D' number 68, 'E
' number 69, 'F' number 70, 'G' number 71, 'H' number 72, 'I' number 73, 'J' number 74, 'K' number 75, 'L' number 76, 'M
' number 77, 'N' number 78, 'O' number 79, 'P' number 80, 'Q' number 81, 'R' number 82, 'S' number 83, 'T' number 84, 'U
' number 85, 'V' number 86, 'W' number 87, 'X' number 88, 'Y' number 89, 'Z' number 90, '[' number 91, '\' number 92, ']
' number 93, '^' number 94, '_' number 95, '`' number 96, 'a' number 97, 'b' number 98, 'c' number 99, 'd' number 100, '
e' number 101, 'f' number 102, 'g' number 103, 'h' number 104, 'i' number 105, 'j' number 106, 'k' number 107, 'l' numbe
r 108, 'm' number 109, 'n' number 110, 'o' number 111, 'p' number 112, 'q' number 113, 'r' number 114, 's' number 115, '
t' number 116, 'u' number 117, 'v' number 118, 'w' number 119, 'x' number 120, 'y' number 121, 'z' number 122, '{' numbe
r 123, '|' number 124, '}' number 125, '~' number 126, '⌂' number 127, 'Ç' number 128,
Process returned 0 (0x0)   execution time : 0.092 s
Press any key to continue.
```

Logs & others

Code::Blocks | DoxyBl

File

37. C programming.c | 38. C programming.c | 39. C programming.c | 40. C programming.c | 41. C programming.c | 42. C programming.c

```c
#include<stdio.h>
main(){
    int i=1,num=1,pow,n;
    printf("Enter a number: "); scanf("%d",&n);
    printf("Enter a power of number: "); scanf("%d",&pow);

    while(i<=pow){
        num=num*n;
        i++;
    }
    printf("The number %d power by %d equal to %d",n,pow,num);
}
```

```
"D:\school\Year3\2. Algorithm & Programming (S1)\TP\39. C programming.exe"
Enter a number: 100
Enter a power of number: 4
The number 100 power by 4 equal to 100000000
Process returned 0 (0x0)   execution time : 2.382 s
Press any key to continue.
```

37. C programming.c | 38. C programming.c | 39. C programming.c | 40. C programming.c | 41. C programming.c | 42. C programming.c

```c
#include<stdio.h>
main(){
    int n,i=1,num=1;
    printf("Enter a number: "); scanf("%d",&n);

    while(i<=n){
        num=num*i;
        i++;
    }
    printf("The number is: %d",num);
}
```

```
"D:\school\Year3\2. Algorithm & Programming (S1)\TP\40. C programming.exe"
Enter a number: 10
The number is: 3628800
Process returned 0 (0x0)   execution time : 6.081 s
Press any key to continue.
```

38. C programming.c | 39. C programming.c | 40. C programming.c | 41. C programming.c | 42. C programming.c | 43. C programming.c

```c
#include<stdio.h>
main(){
    int num,i=2,status,n;
    printf("Enter a number: "); scanf("%d",&num);
    n=num;
    while(i<num){
        status=1;
        num=num/i;
        if(num%i==0){
            status=-1;
            break;
        }
        i++;
    }
    if(status==1){
        printf("Number %d is a primary number.",n);
    }
    else{
        printf("Number %d is not a primary number.",n);
    }
}
```

```
"D:\school\Year3\2. Algorithm & Programming (S1)
Enter a number: 15
Number 15 is a primary number.
Process returned 0 (0x0)   execution t
Press any key to continue.
```

38. C programming.c | 39. C programming.c | 40. C programming.c | 41. C programming.c | 42. C programming.c | 43. C programming.c

```c
#include<stdio.h>
main(){
    int num,i,status,j;
    printf("Enter a number: "); scanf("%d",&num);

    for(i=1;i<=num;i++){
        status=1;
        for(j=2;j<i;j=j+1){
            if(i%j==0){
                status=-1;
                break;
            }
        }
        if(status==1){
            printf("%d ",i);
        }

    }

}
```

```
"D:\school\Year3\2. Algorithm & Programming (S1)\TP\42. C programming.exe"
Enter a number: 40
1 2 3 5 7 11 13 17 19 23 29 31 37
Process returned 0 (0x0)   execution time : 4.791 s
Press any key to continue.
```

Start here | 51. C programming.c | 42. C programming.c

```c
#include<stdio.h>
main(){
    int num,i,status,j,sum=0;
    printf("Enter a number: "); scanf("%d",&num);

    for(i=1;i<=num;i++){
        status=1;
        for(j=2;j<i;j=j+1){
            if(i%j==0){
                status=-1;
                break;
            }
        }
        if(status==1){
            sum=sum+i;
        }
    }
    printf("The sum of primary number is %d",sum);
}
```

```
"D:\school\Year3\2. Algorithm & Programming (S1)\TP\51. C programming.exe"
Enter a number: 100
The sum of primary number is 1061
Process returned 0 (0x0)   execution time : 8.861 s
Press any key to continue.
```

38. C programming.c | 39. C programming.c | 40. C programming.c | 41. C programming.c | 42. C programming.c | 43. C programming.c

```c
#include<stdio.h>
main(){
    int num,remainder,n,m,i=1,power,digit=0,result=0;
    printf("Enter a number: "); scanf("%d",&num);

    n=num;
    m=num;
    while(i<=n){
        n=n/10;
        digit++;
    }
    while(i<=m){
        remainder=m%10;
        m=m/10;
        power=pow(remainder,digit);
        result=result+power;
    }
    if(num==result){
        printf("The number is an armstrong number.");
    }
    else{
        printf("The number is not an armstrong number.");
    }
}
```

```
"D:\school\Year3\2. Algorithm & Programming (S1)\TP\43. C programming.exe"
Enter a number: 153
The number is an armstrong number.
Process returned 0 (0x0)   execution time : 4.082 s
Press any key to continue.
```

43. C programming.c | 44. C programming.c | 45.C programming.c | 46. C programming.c | 47. C programming.c | 48. C programming.c

```c
#include<stdio.h>
main(){
    int num,i,n,j=1,remainder,digit,m,power,result;
    printf("Enter a number: "); scanf("%d",&num);
    printf("The armstrong number is ");
    for(i=1;i<=num;i=i+1){
        n=i;
        m=i;
        digit=0;
        result=0;
        while(j<=n){
            n=n/10;
            digit++;
        }
        while(j<=m){
            remainder=m%10;
            m=m/10;
            power=pow(remainder,digit);
            result=result+power;
        }
        if(i==result){
            printf("%d ",i);
        }
    }
}
```

```
"D:\school\Year3\2. Algorithm & Programming (S1)\TP\44. C programming.exe"
Enter a number: 1000
The armstrong number is 1 2 3 4 5 6 7 8 9 153 370 371 407
Process returned 0 (0x0)   execution time : 3.320 s
Press any key to continue.
```

43. C programming.c | 44. C programming.c | 45.C programming.c | 46. C programming.c | 47. C programming.c | 48. C programming.c

```c
#include<stdio.h>
main(){
    int num,n,i=1,sum=0;
    printf("Enter a number: "); scanf("%d",&num);

    while(i<num){
        n=num%i;
        if(n==0){
            sum=sum+i;
        }
        i++;
    }
    if(sum==num){
        printf("The number is a perfect number.");
    }
    else{
        printf("The number is not a perfect number.");
    }
}
```

```
"D:\school\Year3\2. Algorithm & Programming (S1)\TP\45.C programming.exe"
Enter a number: 28
The number is a perfect number.
Process returned 0 (0x0)   execution time : 3.034 s
Press any key to continue.
```

43. C programming.c | 44. C programming.c | 45.C programming.c | 46. C programming.c | 47. C programming.c | 48. C programming.c

```c
#include<stdio.h>
main(){
    int num,n,i,j,sum;
    printf("Enter a number: "); scanf("%d",&num);
    printf("The perfect number is ");
    for(i=1;i<=num;i++){
        sum=0;
        j=1;
        while(j<i){
            n=i%j;
            if(n==0){
                sum=sum+j;
            }
            j++;
        }
        if(sum==i){
            printf("%d ",i);
        }
    }
}
```

```
"D:\school\Year3\2. Algorithm & Programming (S1)\TP\46. C programming.exe"
Enter a number: 1000
The perfect number is 6 28 496
Process returned 0 (0x0)   execution time : 2.052 s
Press any key to continue.
```

43. C programming.c | 44. C programming.c | 45.C programming.c | 46. C programming.c | 47. C programming.c | 48. C programming.c

```c
#include<stdio.h>
main(){
    int num,i,first=0,second=1,next;
    printf("Enter a number: "); scanf("%d",&num);
    printf("The fibonacci number of %d term is ",num);
    for(i=0;i<num;i++){
        if(i<=1){
            next=i;
        }
        else{
            next=first+second;
            first=second;
            second=next;
        }
        printf("%d ",next);
    }
}
```

```
"D:\school\Year3\2. Algorithm & Programming (S1)\TP\47. C programming.exe"
Enter a number: 10
The fibonacci number of 10 term is 0 1 1 2 3 5 8 13 21 34
Process returned 0 (0x0)   execution time : 2.164 s
Press any key to continue.
```

43. C programming.c | 44. C programming.c | 45.C programming.c | 46. C programming.c | 47. C programming.c | 48. C programming.c

```c
#include <stdio.h>
main(){
    int  num, binary_val, decimal_val = 0, base = 1, rem;
    printf("Enter a binary number: "); scanf("%d", &num);

    binary_val=num;
    while (num > 0){
        rem = num % 10;
        decimal_val = decimal_val + rem * base;
        num = num / 10 ;
        base = base * 2;
    }
    printf("The Binary number is = %d \n", binary_val);
    printf("Its decimal equivalent is = %d \n", decimal_val);
}
```

```
"D:\school\Year3\2. Algorithm & Programming (S1)\TP\48. C programming.exe"
Enter a binary number: 1000
The Binary number is = 1000
Its decimal equivalent is = 8

Process returned 0 (0x0)   execution time : 3.495 s
Press any key to continue.
```

Start here | 49. C programming.c | 50. C programming.c

```c
#include <stdio.h>
main(){
    int n, i, k;
    printf("Enter an integer in decimal number system: "); scanf("%d", &n);
    printf("%d in binary number system is: ", n);

    for (i=30;i>=0;i--){
        k=n>>i;
        if(k&1){
            printf("1");
        }
        else{
            printf("0");
        }
    }
}
```

```
"D:\school\Year3\2. Algorithm & Programming (S1)\TP\49. C programming.exe"
Enter an integer in decimal number system: 1000
1000 in binary number system is: 00000000000000000000001111101000
Process returned 0 (0x0)   execution time : 1.602 s
Press any key to continue.
```

Start here | 49. C programming.c | 50. C programming.c

```c
#include <stdio.h>
main(){
    long decimalnum, remainder, quotient;
    int octalNumber[100], i = 1, j;

    printf("Enter the decimal number: "); scanf("%ld", &decimalnum);
    quotient = decimalnum;
    while (quotient != 0){
        octalNumber[i++] = quotient % 8;
        quotient = quotient / 8;
    }
    printf("Equivalent octal value of decimal no %d: ", decimalnum);
    for (j = i - 1; j > 0; j--){
        printf("%d", octalNumber[j]);
    }
}
```

```
"D:\school\Year3\2. Algorithm & Programming (S1)\TP\50. C programming.exe"
Enter the decimal number: 1000
Equivalent octal value of decimal no 1000: 1750
Process returned 0 (0x0)   execution time : 3.574 s
Press any key to continue.
```