Bahria University, Islamabad

Department of Software Engineering

Computer Programming Lab

(Fall-2022)

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Enrollment : 01-131232-029

Lab Journal: 5

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Task No:	Task Wise Marks		Documentation Marks		Total Marks (20)
	Assigned	Obtained	Assigned	Obtained	
1	3		5		
2	3				
3	3				
4	3				
5	3				

Comments:

Signature

LAB

Lab No: 2- LOOP STATEMENTS- DO WHILE LOOP

Introduction

In this lab we learnt about the basics of c ++. We learnt how to use do while statement.

Tools Used

Microsoft visual studio

Task 1: Print numbers in descending order.

Code

```
#include<iostream>
using namespace std;
int main()
{int i = 20;
do {cout << i << endl;
    i--;} while (i >= 0);
cout << endl;
return 0;}
```

Program

```
20
19
18
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0

C:\Users\Aisha\source\repos\des\x64\Debug\des.
To automatically close the console when debug
```

Task 2: Calculate factorial of a number.

Code

```
#include<iostream>
using namespace std;
int main()
{
    int fac = 1;
    int num;
    int i=1 ;
    cout << "enter any whole number" << endl;
    cin >> num;
    do {
        fac *= i;
        i++;

    } while (i <= num);
    cout << fac << endl;
    return 0;}
```

Program

```
enter any whole number
8
40320

C:\Users\Aisha\source\repos\des\x64\Debug\des.ex
To automatically close the console when debuggin
le when debugging stops.
Press any key to close this window . . .
```

Task 3: Conversion from decimal to octal number.

Code

```
#include<iostream>
using namespace std;
int main()
{
    int num, oct = 0, rem = 0, place = 1;
    cout << "enter a decimal number" << endl;
    cin >> num;
    do {
        rem = num % 8;
        oct = oct + rem * place;
        num = num / 8;
        place = place * 10;
    } while (num>0);
    cout << "the octal number is" << oct << endl;
}
```

Program

```
enter a decimal number
180
the octal number is264

C:\Users\Aisha\source\repos\octal\x64
```

Task 4: **Four-Function Calculator.**

Code

```cpp
#include<iostream>
using namespace std;
int main()
{
    int first_num, second_num, ans;
    char operation;
    char selection;
    do {
        cout << "enter the operator 1  " << endl;
        cin >> first_num;
        cout << "enter the operator 2 " << endl;
        cin >> second_num;
        cout << "chose the operation" << endl;
        cin >> operation;
        switch (operation) {
        case  '+':
            ans = first_num + second_num;
            cout << "answer = " << ans << endl;
            break;
        case '-':
            ans = first_num - second_num;
            cout << "answer = " << ans << endl;
            break;
        case'*':
            ans = first_num * second_num;
            cout << "answer = " << ans << endl;
            break;
        case'/':
            if (second_num == 0) {
                cout << "/ not possible" << endl;
            }
            ans = first_num / second_num;
            cout << "answer = " << ans << endl;
            break;
        default:
            cout << "invalid" << endl;
            return 1;
        }
        cout << "do you want to choose again" << endl;
        cin >> selection;
    } while (selection == 'y' || 'Y');
```

Program

```
answer = 70
do you want to choose again
y
enter the operator 1
90
enter the operator 2
80
chose the operation
-
answer = 10
do you want to choose again
y
enter the operator 1
40
enter the operator 2
50
chose the operation
*
answer = 2000
do you want to choose again
y
enter the operator 1
50
enter the operator 2
2
chose the operation
/
answer = 25
```

Task 5: **It is necessary for the program to display the following sequence of numbers: 7 14 21 28 35 42 49 56 63 70 77 84 91 98**

code

```
#include<iostream>
using namespace std;
int main()
{
    int num ;
    int i = 1;

do {
    num = i*7;
    i++;

        cout << num << "  ";

} while (i <= 14);

}
```

Program

```
Microsoft Visual Studio Debug Console
7  14  21  28  35  42  49  56  63  70  77  84  91  98
C:\Users\Aisha\source\repos\7\x64\Debug\7.exe (process 3900) exited with c
To automatically close the console when debugging stops, enable Tools->Opt
le when debugging stops.
Press any key to close this window . . .
```

Task 6: **It is necessary to display the following sequence of numbers: 1 2 4 8 16 32 64 128 256 512**

Code:

```
#include<iostream>
using namespace std;
int main()
{
    int num=1;
    do {
        cout << num << "   ";
        num *= 2;

    } while (num <= 512);

}
```

Program:

Microsoft Visual Studio Debug Console

```
1   2   4   8   16   32   64   128   256   512
C:\Users\Aisha\source\repos\7\x64\Debug\7.exe (process 11520) exited with
To automatically close the console when debugging stops, enable Tools->Opt
le when debugging stops.
Press any key to close this window . . .
```

Conclusion

Understanding of basic concept of do-while loop. In “do-while” loop, the body of loop comes before the test condition. The body of the loop is executed and then the condition is tested.