

Exercise Lab 03

Q1.

```
#include <iostream>
using namespace std;
class student {
    string name, dep, id, sub[6];
    int marks[6], total = 0, percent;
public:
    void rollno() {
        cout << "enter your roll no: ";
        cin >> id;
    }
    void names() {
        cout << "enter your name: ";
        cin >> name;
    }
    void department() {
        cout << "enter your department name: ";
        cin >> dep;
    }
    void subjects() {
        for (int i = 0; i < 6; i++)
        {
            cout << "enter your " << i + 1 << " subjects: ";
            cin >> sub[i];
            cout << "enter marks " << i + 1 << " subjects: ";
            cin >> marks[i];
            total = total + marks[i];
        }
        cout << total;
        cout << "\n";
        percent = (total / 6) ;
        cout << "\n";
        cout << "your percentage is " << percent << "%" ;
        cout << "\n";
        if (percent >= 80) {
            cout << "your grade is A grade";
        }
        else if (percent >= 70 && percent <= 80)
        {
            cout << "your grade is B grade";
        }
        else if (percent >= 60 && percent <= 70)
        {
            cout << "your grade is C grade";
        }
        else if (percent >= 50 && percent <= 60)
```

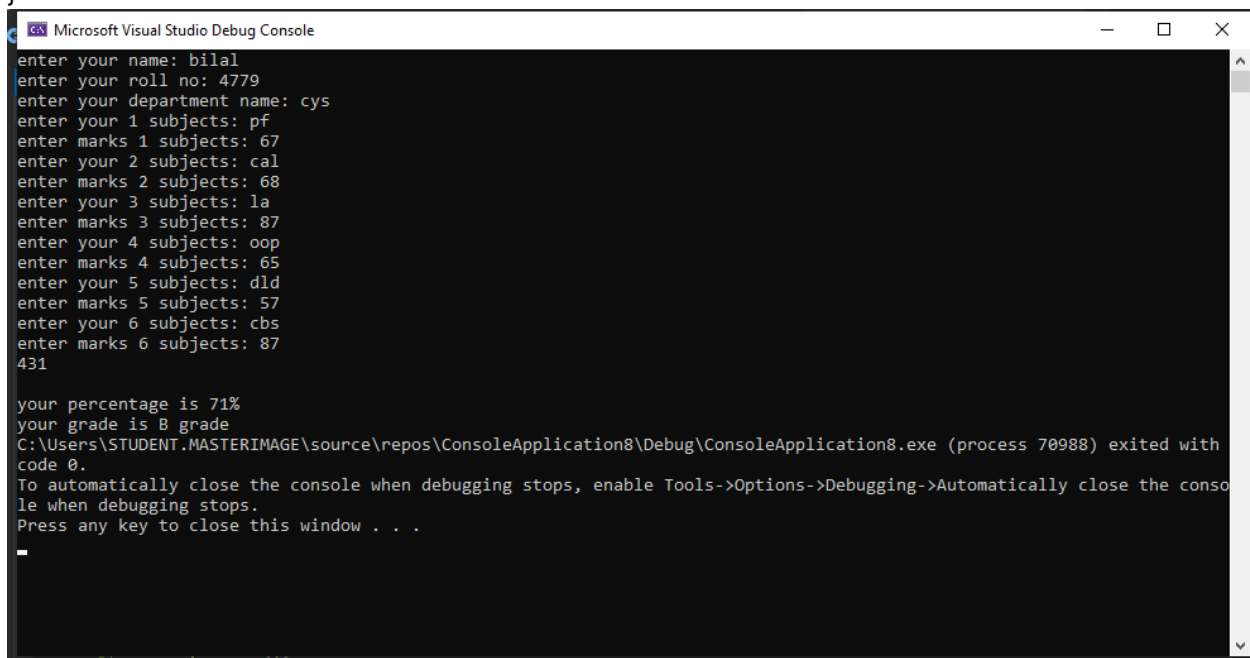
```

        {
            cout << "your grade is F grade";
        }
    else if (percent < 50)
    {
        cout << "your grade is U grade";
    }
}

};

int main()
{
    student s;
    s.names();
    s.rollno();
    s.department();
    s.subjects();
}

```



The screenshot shows the Microsoft Visual Studio Debug Console window. It displays the input and output of a C++ program. The user enters their name as 'bilal', roll number as '4779', department as 'cys', and six subjects with their marks. The program calculates the percentage as 71% and outputs 'your grade is B grade'. The console also shows the program's exit path and a message to press any key to close the window.

```

Microsoft Visual Studio Debug Console
enter your name: bilal
enter your roll no: 4779
enter your department name: cys
enter your 1 subjects: pf
enter marks 1 subjects: 67
enter your 2 subjects: cal
enter marks 2 subjects: 68
enter your 3 subjects: la
enter marks 3 subjects: 87
enter your 4 subjects: oop
enter marks 4 subjects: 65
enter your 5 subjects: dld
enter marks 5 subjects: 57
enter your 6 subjects: cbs
enter marks 6 subjects: 87
431

your percentage is 71%
your grade is B grade
C:\Users\STUDENT.MASTERIMAGE\source\repos\ConsoleApplication8\Debug\ConsoleApplication8.exe (process 70988) exited with code 0.
To automatically close the console when debugging stops, enable Tools->Options->Debugging->Automatically close the console when debugging stops.
Press any key to close this window . . .

```

Q2.

```
#include <iostream>

using namespace std;

class Bank {
private:
    int acnum;
    char name[30];
    long balance;
    int num,age,pin;
    char address[30];

public:
    void OpenAccount()
    {
        cout << "Enter account number: ";
        cin >> acnum;
        cout << "Enter name: ";
        cin >> name;
        cout << "Enter age: ";
        cin >> age;
        cout << "Enter cnic: ";
        cin >> num;
        cout << "Enter address: ";
        cin >> address;
        cout << "Enter Balance: ";
        cin >> balance;
        cout << "Enter pin: ";
```

```

        cin >> pin;
    }
    void ShowAccount()
    {
        cout << "Account Number: " << acnum << endl;
        cout << "Name: " << name << endl;
        cout << "age: " << age << endl;
        cout << "cnic: " << num << endl;
        cout << "address: " << address << endl;
        cout << "balance: " << balance << endl;
        cout << "pin: " << pin << endl;
    }

```

```

int Search(int);
};

```

```

int Bank::Search(int a)
{
    if (acnum == a) {
        ShowAccount();
        return (1);
    }
    return (0);
}

```

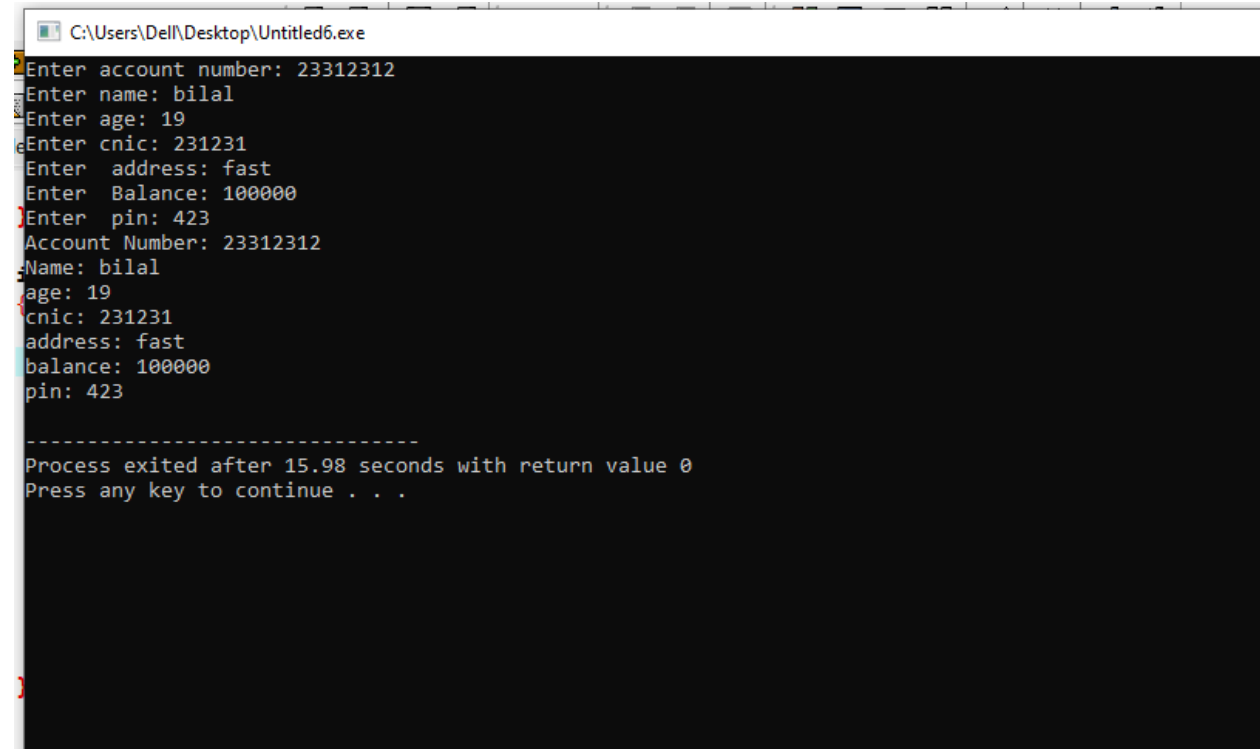
```

int main()
{
    Bank C;

    int found = 0, a, ch, i;

```

```
C.OpenAccount()  
C.ShowAccount();  
return 0;  
}
```



```
C:\Users\Dell\Desktop\Untitled6.exe  
Enter account number: 23312312  
Enter name: bilal  
Enter age: 19  
Enter cnic: 231231  
Enter address: fast  
Enter Balance: 100000  
Enter pin: 423  
Account Number: 23312312  
Name: bilal  
age: 19  
cnic: 231231  
address: fast  
balance: 100000  
pin: 423  
  
-----  
Process exited after 15.98 seconds with return value 0  
Press any key to continue . . .
```

Q3.

```
#include<iostream>
#include<string>
using namespace std;
class customer {
    public:
        string Name="bilal";
        string LastName="jawaid";
        int Age;
        long int Contact=33354514;
    private:
        int Last_Account_num;
        string Address;
    public:
        void setcustomer(int a, string c)
        {
            Last_Account_num = a;
            Address = c;
        }
        void customerdetails()
        {
            cout << "Name: " << Name << endl;
            cout << "LastName: " << LastName << endl;
            cout << "Age: " << Age << endl;
            cout << "Contact: " << Contact << endl;
            cout << "Last_Account_num: " << Last_Account_num << endl;
            cout << "Address: " << Address << endl;
        }
};
```

```

class account {
public:
    int Account_number;
    string Account_Type="student";
    int Total_Range=5000;
private:
    string Status;
public:
    void setaccount(string d)
    {
        Status = d;
    }
    void accountdetails()
    {
        cout << "Account_number: " << Account_number << endl;
        cout << "Account_Type: " << Account_Type << endl;
        cout << "Total_Range: " << Total_Range << endl;
        cout << "Status: " << Status << endl;
    }
};

class transaction {
public:
    string date= "10/10/2004";
    string type="online";
    int    amount=35000;
    int fees=10000;
    void transactiondetails()
    {
        cout << "date: " << date << endl;
        cout << "type: " << type << endl;
    }
};

```

```

        cout << "amount: " << amount << endl;
        cout << "fees: " << fees << endl;
    }
};

int main()
{
    customer ce;
    account acc;
    transaction tra;
    int a;
    char b;
    string c, d;
    cout<<"enter age: ";
    cin>>ce.Age;
    if(ce.Age<18)
    {
        cout<<"error";
    }
    else
    {
        cout << "Last_Account_num: ";
        cin >> a;
        cout << "Address: ";
        cin >>c;
    }

    cout<<"Account_number: ";
    cin>>acc.Account_number;
    if(acc.Account_number==a)
    {
        cout<<"error";
    }
}

```



```

    }

    ce.setcustomer(a,c);

    ce.customerdetails();

    cout << "enter status: ";

    cin >> d;

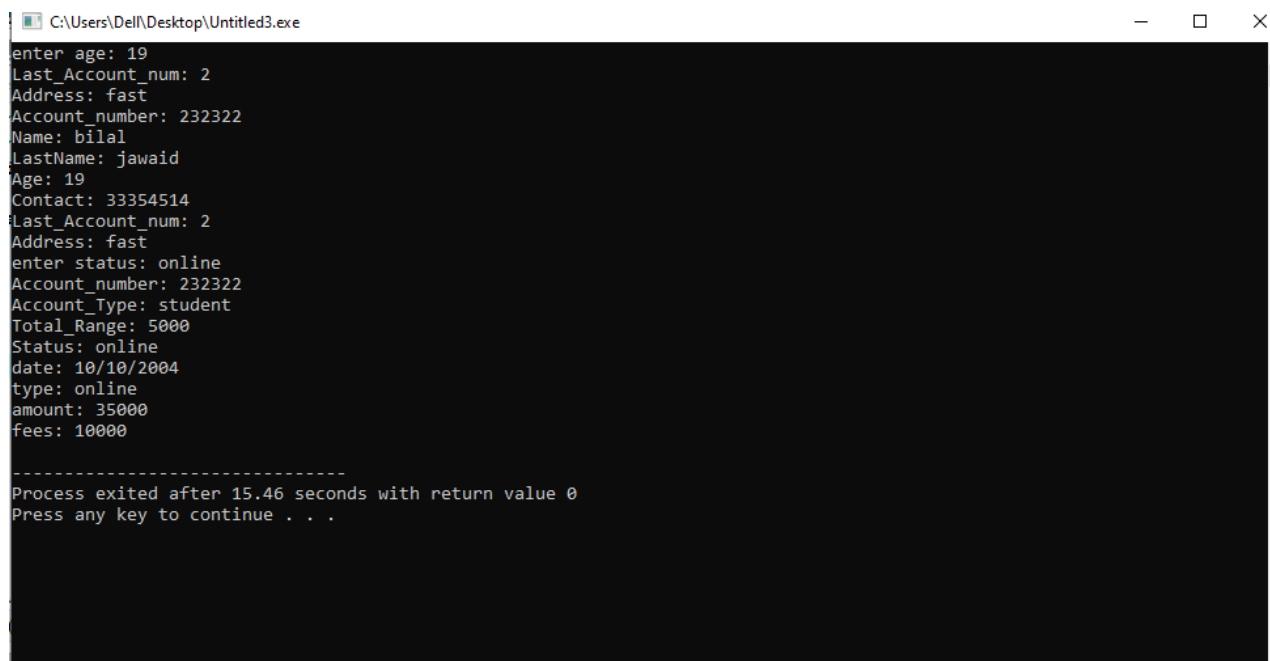
    acc.setaccount(d);

    acc.accountdetails();

    tra.transactiondetails();

}

```



```

C:\Users\Dell\Desktop\Untitled3.exe
enter age: 19
Last_Account_num: 2
Address: fast
Account_number: 232322
Name: bilal
LastName: jawaid
Age: 19
Contact: 33354514
Last_Account_num: 2
Address: fast
enter status: online
Account_number: 232322
Account_Type: student
Total_Range: 5000
Status: online
date: 10/10/2004
type: online
amount: 35000
fees: 10000

-----
Process exited after 15.46 seconds with return value 0
Press any key to continue . . .

```

Q4.

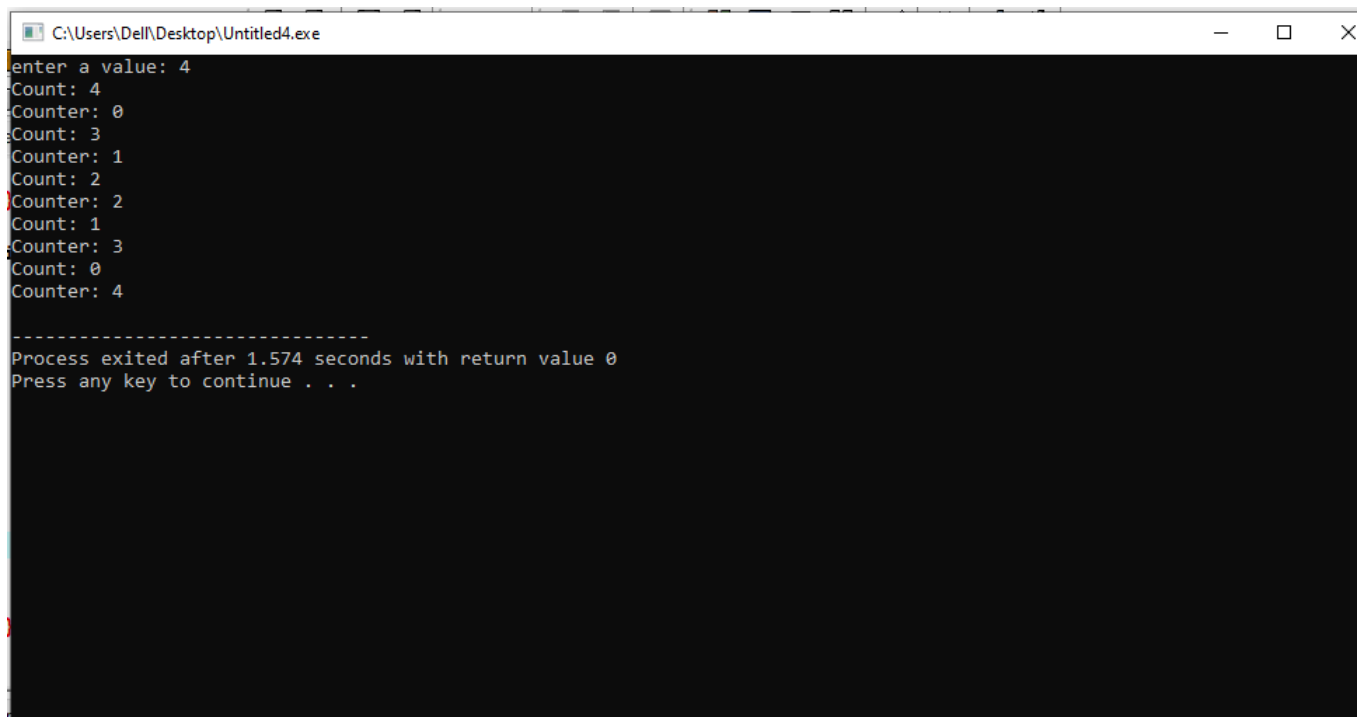
```
#include <iostream>
using namespace std;
class CounterType {
private:
    int count;
    int counter = 0;
public:
    CounterType() {
        count = 0;}
    CounterType(int c) {
        count = c;}
    void increaseCounter() {
        counter++; }
    int decreaseCount() {
        if (count == 0)
            return 0;
        count--;
        return 1;}
    int getCount() {
        return count;
    }
    int getCounter() {
        return counter;
    }
    void print_c(ostream &cout) {
        cout << "Count: " << getCount() << "\n";
        cout << "Counter: " << getCounter() << "\n";
    }
}
```

```

};

int main(int argc, char const *argv[]) {
    int value;
    cout << "enter a value: ";
    cin >> value;
    CounterType c(value);
    while (1) {
        c.print_c(cout);
        c.increaseCounter();
        int t = c.decreaseCount();
        if (!t) {
            break;
        }
    }
    return 0;
}

```



```

C:\Users\Dell\Desktop\Untitled4.exe
enter a value: 4
Count: 4
Counter: 0
Count: 3
Counter: 1
Count: 2
Counter: 2
Count: 1
Counter: 3
Count: 0
Counter: 4

-----
Process exited after 1.574 seconds with return value 0
Press any key to continue . . .

```

Q5.

```
#include<iostream>
#include<stdio.h>
#include<string.h>

using namespace std;
class bank
{
    int acnum;
    char nm[100], acctype[100];
    float bal;
public:
    bank(int acc_no, char *name, char *acc_type, float balance)
    {
        acnum=acc_no;
        strcpy(nm, name);
        strcpy(acctype, acc_type);
        bal=balance;
    }
    void deposit();
    void withdraw();
    void display();
};

void bank::deposit()
{
    int damt1;
    cout<<"\n";
    cout<<"Enter Deposit Amount = ";
    cin>>damt1;
```

```

        bal+=damt1;
    }
void bank::withdraw()
{
    int wamt1;
    cout<<"\n";
    cout<<"Enter Withdraw Amount = ";
    cin>>wamt1;
    if(wamt1>bal){

        cout<<"\n";

        cout<<"Cannot Withdraw Amount";

    }

    bal-=wamt1;
}
void bank::display()
{
    cout<<"\n";
    cout<<"Accout Num: "<<acnum<<"\n";
    cout<<"Name: "<<nm<<"\n";
    cout<<"Account Type: "<<acctype<<"\n";
    cout<<"Balance: "<<bal<<"\n";
}
int main()
{
    int acc_no;
    char name[100], acc_type[100];
    float balance;

    cout<<"Accout Num: ";

```

```
    cin>>acc_no;

    cout<<"Name: ";

    cin>>name;

    cout<<"Account Type: ";

    cin>>acc_type;

    cout<<"Balance: ";

    cin>>balance;


    bank b1(acc_no, name, acc_type, balance);

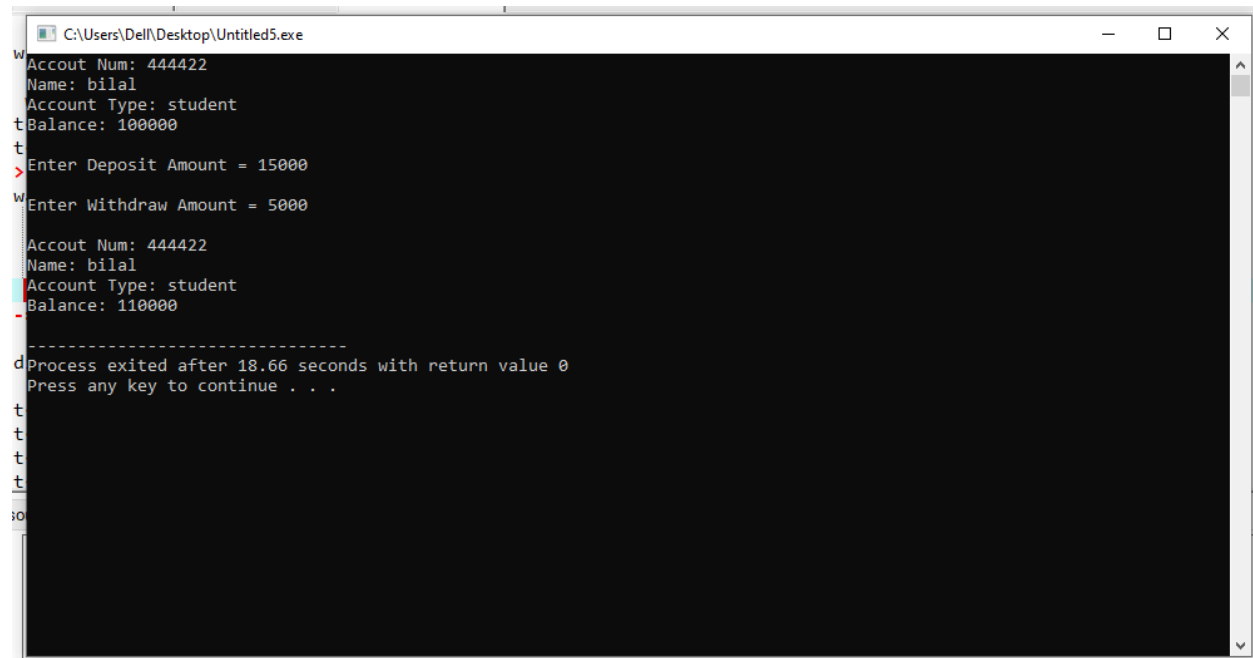
    b1.deposit();

    b1.withdraw();

    b1.display();

    return 0;

}
```



```
C:\Users\Del\Desktop\Untitled5.exe
Account Num: 444422
Name: bilal
Account Type: student
Balance: 100000
>Enter Deposit Amount = 15000
Enter Withdraw Amount = 5000
Account Num: 444422
Name: bilal
Account Type: student
Balance: 110000
-----
Process exited after 18.66 seconds with return value 0
Press any key to continue . . .
```