SVKM's NMIMS

Mukesh Patel School of Technology Management and Engineering, Mumbai

Programming for Problem Solving (Exp 11)

Roll No: J001	**Name: Adith Ramakrishna**
Program: B. Tech Data Science (1st)	**Batch: J1**
Date of Experiment: 30/11/2022	**Date of Submission: 5/12/2022**

Task 1:

Code:

```
#include<iostream>
#include<cmath>
#include<string.h>
using namespace std;

class account {
   protected:
   char cname[20];
   int accno;
   char type;
   int bal;

   public: account() {
      strcpy(cname, " ");
      accno = 0;
      type = ' ';
      bal = 0;
   }
   void input() {
      cout << "Enter Customer name: ";
      cin >> cname;
      cout << "Enter Account Number: ";
      cin >> accno;
      cout << "Enter Account Type: ";
      cin >> type;
      cout << "Enter Balance: ";
      cin >> bal;
   }
   void display() {
      cout << "\n\n Customer Name " << cname;
```

```
    cout << "\n Account Number " << accno;
    cout << "\n Type " << type;
    cout << "\n Balance " << bal;
  }
  void deposit() {
    int amt;
    cout << "\n Enter the amount to deposit: ";
    cin >> amt;
    bal = bal + amt;
  }
};
class savacct: public account {
  int inter;
  public:

    int comp_int() {
      int time1, rate1;
      rate1 = 10;
      cout << "\n Enter time: ";
      cin >> time1;
      inter = bal * pow(1 + rate1 / 100.0, time1) - bal;
      return inter;
    }

  void update_bal() {
    bal = bal + comp_int();
  }

  void withdrawal() {
    int amt;
    cout << "\n Enter amount to withdrawn: ";
    cin >> amt;
    if (bal >= amt) {
      bal = bal - amt;
    } else {
      cout << "\n The amount cannot be withdrawn";
```

```
    }
  }
};

class curacct: public account {
  int chq_bk;
  int penal;
  public:

    int min_bal() {
      int ret1 = 1;
      if (bal <= 500) {
        penal = 50;
        bal = bal - penal;
        ret1 = 0;
      } else {
        cout << "\n No penality imposed";
      }
      return ret1;
    }
  void withdrawal() {
    int amt;
    cout << "\n Enter the amount to withdrawn: ";
    cin >> amt;
    int k = min_bal();
    if (k == 1) {
      if (bal >= amt)
        bal = bal - amt;
    } else {
      cout << "\n The amount cannot be withdrawn";
    }
  }
};

int main() {
  curacct c1;
```

```
   savacct s1;
   c1.input();
   c1.display();
   c1.deposit();
   c1.display();
   c1.withdrawal();
   c1.display();
   s1.input();
   s1.display();
   s1.deposit();
   s1.display();
   s1.withdrawal();
   s1.display();
   return 0;
}
```

Task 2:

Code:

```
#include<iostream>

using namespace std;
class staff {
   protected: int c;
   string n;
   public: void sinput() {
      cout << "\nEnter code : ";
      cin >> c;
      cout << "\nEnter name : ";
      cin >> n;
   }
   void idisplay() {
      cout << "\nCode : " << c;
      cout << "\nName : " << n;
   }
```

```
};
class teacher: public staff {
   protected: string s;
   string p;
   public: void tinput() {
      sinput();
      cout << "\nEnter subject : ";
      cin >> s;
      cout << "\nEnter publication : ";
      cin >> p;
   }
   void tdisplay() {
      idisplay();
      cout << "\nSubject : " << s;
      cout << "\nPublication : " << p;
   }
};
class officer: public staff {
   protected: string g;
   public: void oinput() {
      sinput();
      cout << "\nEnter grade : ";
      cin >> g;
   }
   void odisplay() {
      idisplay();
      cout << "\nGrade : " << g;
   }
};
class typist: public staff {
   protected: double s;
   public: void tpinput() {
      sinput();
      cout << "\nEnter speed : ";
      cin >> s;
   }
```

```
   void tydisplay() {
      idisplay();
      cout << "\nSpeed " << s;
   }
};
class regular: public typist {
   protected: double sal;
   public: void input() {
      tpinput();
      cout << "\nEnter monthly salary : ";
      cin >> sal;
   }
   void display() {
      tydisplay();
      cout << "\nSalary : " << sal;
   }
};
class causal: public typist {
   protected: double sal;
   public: void input() {
      tpinput();
      cout << "\nEnter daily salary : ";
      cin >> sal;
   }
   void display() {
      tydisplay();
      cout << "\nSalary : " << sal;
   }
};
int main() {
   int c, d;
   cout << "\nEnter 1 for teacher";
   cout << "\nEnter 2 for typist";
   cout << "\nEnter 3 for officer";
   cout << "\nEnter your choice : ";
   cin >> c;
```

```
    if (c == 1) {
        teacher t;
        t.tinput();
        t.tdisplay();
    } else if (c == 3) {
        officer o;
        o.oinput();
        o.odisplay();
    } else if (c == 2) {
        cout << "\nEnter 1 for regular";
        cout << "\nEnter 2 for causal";
        cout << "\nEnter your choice : ";
        cin >> d;
        if (d == 1) {
            regular r;
            r.input();
            r.display();
        } else if (d == 2) {
            causal c;
            c.input();
            c.display();
        }
    }
    return 0;
}
```