**SVKM’s NMIMS**

**Mukesh Patel School of Technology Management and Engineering, Mumbai**

**Department of Electronics & Telecommunication**



**Programming for Problem Solving (Exp 11)**

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**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 "\n Enter amount to withdrawn: ";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 "\n The amount cannot be withdrawn";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 "\n Enter the amount to withdrawn: ";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 "\n The amount cannot be withdrawn";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;

}