**JAVA CORE ASSSIGNMENTS**

**ASSIGNMENT NO- 1**

import java.util.\*;

public class Employee

{

public static void main(String[] args) { **//Driver Class**

Scanner sc=new Scanner(System.in);

int eng\_marks=0;

int mat\_marks=0;

int gk\_marks=0;

int remaining=3;

int eng\_attempt=0;

int mat\_attempt=0;

int gk\_attempt=0;

System.out.println("Online examination !!!");

do{

System.out.println("Enter the section you want to enter" );

System.out.println("1. English 2.Maths 3.GK");

System.out.println("--------------------------------------------------------") ;

int choice=sc.nextInt();

switch(choice){

case 1: if(eng\_attempt==0){

System.out.println("Welcome to English section");

System.out.println("Here are your questions - All the Best"); **// English section**

System.out.println("Fill in the blanks with correct word");

System.out.println("1. Extreme old age when a man behaves like a fool \_\_\_\_\_\nA. Imbecility \nB. Senility \nC. Dotage\nD.Superannuation");

sc.nextLine();

String ch=sc.nextLine();

if(ch.equals("C"))

{

eng\_marks+=10;

System.out.println("your Answer is Correct");

}

else

{

System.out.println("your Answer is Wrong");

}

System.out.println("--------------------------------------------------------") ;

System.out.println("Fill in the blanks with correct word");

System.out.println("2. I eat\_\_\_\_\_ apple everyday\nA. the \nB. an \nC. a\nD.is");

String ch1=sc.nextLine();

if(ch1.equals("B"))

{

eng\_marks+=10;

System.out.println("your Answer is Correct");

}

else

{

System.out.println("your Answer is Wrong");

}

System.out.println("--------------------------------------------------------") ;

System.out.println("Fill in the blanks with correct verb");

System.out.println("3. \_\_\_\_\_\_\_\_\_ run if you feel tired.\nA. Mustn't\nB. don't have to \nC. shouldn't\nD.don't");

String ch2=sc.nextLine();

if(ch2.equals("D"))

{eng\_marks+=10;

System.out.println("Your Answer is Correct");

}

else

{

System.out.println("Your Answer is Wrong");

}

System.out.println("This section completed successfully");

eng\_attempt++;

remaining--;

break;

}

else{

System.out.println("You Have already visited this section");

break;

}

case 2: if(mat\_attempt==0){

System.out.println("--------------------------------------------------------") ;

System.out.println("Welcome to Maths section"); **// Maths section**

System.out.println("Here are your questions - All the Best");

System.out.println("choose the correct option");

System.out.println("1. QAR, RAS, SAT, TAU, \_\_\_\_\_?\nA. TAS\nB. TAT\nC. UAT\nD. UAV");

sc.nextLine();

String ch=sc.nextLine();

if(ch.equals("D"))

{

mat\_marks+=10;

System.out.println("your Answer is Correct");

}

else

{

System.out.println("your Answer is Wrong");

}

System.out.println("--------------------------------------------------------") ;

System.out.println("Fill in the blanks with correct word");

System.out.println("2. If South-East becomes North, North-East becomes West and so on. What will West become\_\_\_?\nA. North-East\nB. North-West \nC. South-East\nD. South-West");

String ch1=sc.nextLine();

if(ch1.equals("C"))

{

mat\_marks+=10;

System.out.println("your Answer is Correct");

}

else

{

System.out.println("your Answer is Wrong");

}

System.out.println("--------------------------------------------------------") ;

System.out.println("choose the right option");

System.out.println("3.Pointing to a photograph of a boy Suresh said, He is the son of the only son of my mother. How is Suresh related to that boy?\nA. Brother\nB. Uncle\nC. Cousin\nD.Father");

String ch2=sc.nextLine();

if(ch2.equals("D"))

{

mat\_marks+=10;

System.out.println("Your Answer is Correct");

}

else

{

System.out.println("Your Answer is Wrong");

}

System.out.println("This section completed successfully");

mat\_attempt++;

remaining--;

break;

}

else

{

System.out.println("You Have already visited this section");

break;

}

case 3: if(gk\_attempt==0){

System.out.println("--------------------------------------------------------") ;

System.out.println("Welcome to GK section");

**// GK section**

System.out.println("Here are your questions - All the Best");

System.out.println("choose the correct option");

System.out.println("1. For which of the following disciplines is Nobel Prize awarded?\nA. Physics and Chemistry\nB. Physiology or Medicine\nC. Literature, Peace and Economics\nD. All of the above");

sc.nextLine();

String ch=sc.nextLine();

if(ch.equals("D"))

{

gk\_marks+=10;

System.out.println("your Answer is Correct");

}

else

{

System.out.println("your Answer is Wrong");

}

System.out.println("--------------------------------------------------------") ;

System.out.println("Fill in the blanks with correct word");

System.out.println("2. Hitler party which came into power in 1933 is known as\_\_\_?\nA. Labour Party\nB. Nazi-Party \nC. Ku-Klux-Clan\nD. Democratic Party");

String ch1=sc.nextLine();

if(ch1.equals("B"))

{

gk\_marks+=10;

System.out.println("your Answer is Correct");

}

else

{

System.out.println("your Answer is Wrong");

}

System.out.println("--------------------------------------------------------") ;

System.out.println("choose the right option");

System.out.println("3.Galileo was an Italian astronomer who?\nA. developed the telescope\nB. discovered four satellites of Jupiter\nC. discovered that the movement of pendulum produces a regular time measurement\nD. All of the above");

String ch2=sc.nextLine();

if(ch2.equals("D"))

{

gk\_marks+=10;

System.out.println("Your Answer is Correct");

}

else

{

System.out.println("Your Answer is Wrong");

}

System.out.println("This section completed successfully");

gk\_attempt++;

remaining--;

break;

}

else

{

System.out.println("You Have already visited this section");

break;

}

default:System.out.println("Wrong choice entered");

}

if(remaining!=0){

System.out.println("Do you want to continue with the unfinished section??\n 1. Yes\n2. No");

int response=sc.nextInt();

switch(response){

case 1:System.out.println("Yes");

break;

case 2:System.out.println("No");

if(eng\_attempt==0||mat\_attempt==0||gk\_attempt==0){

System.out.println("Please make sure to complete the exam.");

}

break;

default:System.out.println("Please select a suitable response.");

}

}

else{

System.out.println("Exam is successfully completed.Thank you!!!");

}

}while(remaining!=0);

int final\_result=0;

int total\_marks=0;

System.out.println("--------------------------------------------------------");

System.out.println("Marks obtained in English section "+ eng\_marks);

System.out.println("Marks obtained in Maths section "+ mat\_marks); **// Marks calculation section**

System.out.println("Marks obtained in GK section "+ gk\_marks);

total\_marks=eng\_marks+mat\_marks+gk\_marks;

System.out.println("Total Marks obtained in Exam "+ total\_marks);

if(total\_marks>70){

final\_result= total\_marks+=10;

System.out.println("Final Marks calculated "+ final\_result);

}

System.out.println("--------------------------------------------------------");

if(total\_marks>=90)

{

System.out.println("Hurray!! congrats you are hired"); **// Final Result Section**

}

else{

System.out.println("Sorry, not qualified. You can try next time,Good Luck");

}

}

}

**--------------------------------------------------------------------------------------------------------------------------**

**ASSIGNMENT NO- 2**

import java.util.\*;

public EmployeeDetails

{

public static void main(String []args){ **//Driver Class**

Scanner sc=new Scanner(System.in);

int n=sc.nextInt();

int []Id=new int[n];

String []name=new String[n];

double[]Salary=new double[n];

String[]Desg=new String[n];

for(int i=0;i<n;i++){

Id[i]=sc.nextInt();

name[i]=sc.next();

Salary[i]=sc.nextDouble();

Desg[i]=sc.next();

}

double []total=calSalary(Salary,Desg,n);

System.out.println("---------------------------------------------");

for(int i=0;i<n;i++)

{

System.out.println("id is "+ Id[i]);

System.out.println("name is "+ name[i]);

System.out.println("salary is "+ total[i]);

System.out.println("Desg is "+ Desg[i]);

System.out.println("---------------------------------------------");

}

}

static double[] calSalary(double []gross,String []Desg,int n){

double bonus;

double hra,da,pf; **//salarycalculate function**

double []t=new double[n];

for(int i=0;i<n;i++){

hra=0.1\*gross[i];

da=0.07\*gross[i];

pf=0.05\*gross[i];

String d=Desg[i].toLowerCase();

if(d.equals("manager"))

{

bonus=0.15\*gross[i];

}

else if(d.equals("developer"))

{

bonus=0.10\*gross[i];

}

else{

bonus=0.05\*gross[i];

}

gross[i]+=hra+bonus+da-pf;

}

for(int i=0;i<n;i++){

t[i]=gross[i];

}

return t;

}

**--------------------------------------------------------------------------------------------------------------------------**

**ASSIGNMENT NO- 3**

import java.util.\*;

public class EmployeeTest

{

public static void main(String []args){ **//Driver Class**

Scanner sc=new Scanner(System.in);

System.out.println("Enter number of Employee records you want to store");

int n=sc.nextInt();

EmployeeDetails ed=new EmployeeDetails(n);

ed.read();

ed.calSalary();  **//calling of functions**

ed.bonus();

ed.display();

}

}

class EmployeeDetails{

Scanner sc=new Scanner(System.in);

int e;  **//EmployeeDetails class**

EmployeeDetails(int t){

e=t;

}

int []id=new int[10];

String[]name=new String[10];

double[]salary=new double[10];

double[]total\_salary=new double[10];

String[]desg=new String[10];

void read(){

for(int i=0;i<e;i++){

System.out.println("Enter Id");

id[i]=sc.nextInt();  **//read() function**

sc.nextLine();

System.out.println("Enter Name");

name[i]=sc.nextLine();

System.out.println("Enter Salary");

salary[i]=sc.nextDouble();

total\_salary[i]=salary[i];

sc.nextLine();

System.out.println("Enter Designation");

desg[i]=sc.next();

System.out.println("---------------------------------------------");

}

}

void calSalary()

{

for(int i=0;i<e;i++){ **//salarycalculate() function**

double hra,da,pf;

hra=salary[i]\*0.1;

da=salary[i]\*0.07;

pf=salary[i]\*0.05;

salary[i]+=hra+da-pf;

}

}

void bonus()

{

for(int i=0;i<e;i++){

double hra,da,pf,perks;

hra=salary[i]\*0.1;  **//bonus() function**

da=salary[i]\*0.07;

pf=salary[i]\*0.05;

String d=desg[i].toLowerCase();

if(d.equals("manager"))

{

perks=salary[i]\*0.15;

}

else if(d.equals("developer"))

{

perks=salary[i]\*0.10;

}

else{

perks=salary[i]\*0.05;

}

salary[i]+=hra+perks+da-pf;

}

}

void display()

{

for(int i=0;i<e;i++)

{  **//display() method**

System.out.println("Id of Employee is : "+ id[i]);

System.out.println("Name of Employee is : "+ name[i]);

System.out.println("Salary of Employee is : "+ salary[i]);

System.out.println("Desgination of Employee is : "+ desg[i]);

System.out.println("---------------------------------------------");

}

}

}

}

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**ASSIGNMENT-4**

import java.util.\*;

public class Main

{

public static void main(String[] args) {

System.out.println("The manager details are : ");  **//Driver function**

Manager mgr=new Manager();

mgr.read();

mgr.readMgr();

System.out.println("The Programmer details are : ");

Programmer prg=new Programmer();

prg.read();

prg.readPrg();

mgr.calSalary();

prg.calSalary();

mgr.display();

mgr.disMgr();

prg.display();

prg.disPrg();

}

}

class Employee{

int id;

String name;

double salary;

Scanner sc=new Scanner(System.in);  **//Employee class**

Address add=new Address();

void read(){

System.out.println("Enter Id of Employee : ");

id=sc.nextInt();

sc.nextLine();

System.out.println("Enter Name of Employee : ");

name=sc.nextLine();

System.out.println("Enter Salary of Employee : ");

salary=sc.nextDouble();

}

void calSalary(){

double hra,da,pf;

hra=salary\*0.1;

da=salary\*0.07;

pf=salary\*0.05;

salary+=hra+da-pf;

}

void display(){

System.out.println("\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_");

System.out.println("ID is : "+ id);

System.out.println("Name is : "+ name);

System.out.println("Salary is : "+ salary);

}

}

class Manager extends Employee{

int number\_of\_employees;

void readMgr(){

System.out.println("Enter number of Employees");

number\_of\_employees=sc.nextInt();  **//Manager class**

add.readAdd();

}

void disMgr(){

System.out.println("Number of employees is : "+ number\_of\_employees);

add.disAdd();

}

}

class Programmer extends Employee{

String project\_name;

void readPrg(){  **//Programmer class**

System.out.println("\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_");

sc.nextLine();

System.out.println("Enter the Project Name");

project\_name=sc.nextLine();

add.readAdd();

}

void disPrg(){

System.out.println("The Project Name is :" + project\_name);

add.disAdd();

}

}

class Address{

Scanner sc=new Scanner(System.in);

String city;

String state;  **//Address class**

int pincode;

void readAdd(){

System.out.println("Enter City : ");

city=sc.nextLine();

System.out.println("Enter State : ");

state=sc.nextLine();

System.out.println("Enter Pincode : ");

pincode=sc.nextInt();

}

void disAdd(){

System.out.println("City :"+ city);

System.out.println("State :"+ state);

System.out.println("Pincode :"+ pincode);

}

}

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**ASSIGNMENT NO- 5**

import java.util.\*;

public class Main

{

public static void main(String[] args) {

**//Driver Function**

Scanner sc=new Scanner(System.in);

System.out.println("Enter how many Student Details you want to store:");

int n=sc.nextInt();

Student std[]=new Student[n];

for(int i=0;i<n;i++){

std[i]=new Student();

std[i].read();

}

for(int i=0;i<n;i++){

std[i].calGrade();

}

for(int i=0;i<n;i++){

std[i].display();

}

}

}

class Student{

int sId;

String sName;

int age; **//Student Class**

int marks[]=new int[4];

String Grade;

Scanner sc=new Scanner(System.in);

void read(){

System.out.println("Enter student Details :");

System.out.println("Enter student Id :");

sId=sc.nextInt();

sc.nextLine();

System.out.println("Enter student Name :");

sName=sc.nextLine();

System.out.println("Enter student Age :");

age=sc.nextInt();

System.out.println("Enter Marks obtained by student in each subject- Physcis,chemistry, Maths and Biology: ");

for(int i=0;i<marks.length;i++){

marks[i]=sc.nextInt();

}

}

void calGrade(){

int total=0; **//Grade Calculate function**

double avg;

for(int i=0;i<marks.length;i++){

total+=marks[i];

}

avg=total/4;

if(avg>90){

Grade= "A+";

}

else if(avg>80)

{

Grade="A";

}

else if(avg>70){

Grade="B";

}

else if(avg>55){

Grade="C";

}

else{

Grade="D";

}

}

void display(){

System.out.println("------------------------------------"); **//Display Function**

System.out.println("Id is: "+ sId);

System.out.println("Name is: "+ sName);

System.out.println("Age is: "+ age);

System.out.println("Grade is: "+ Grade);

}

}

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**ASSIGNMENT NO- 6**

import java.util.Scanner;

package com.service;

import com.bean.Account;

abstract class AccountInitialization

{

public static int accountcount=0,accountcount1=0,i=0,j=0;

public static int accno=100;

public static int accno1=100;

public String name;

public int amount;

public Account accounts[]=new Account[10];

void accountcreate()

{

if(accountcount<10)

{

name="Unknown";

amount=500;

accounts[i]=new Account(accno,name,amount);

accno++;

i++;

accountcount++;

}

else

{

accountcount1=1;

System.out.println("Account Limit exceeded.");

}

}

void accountcreate(String name,int amount)

{

if(accountcount1<10)

{

if(amount>500)

{

this.name=name;

this.amount=amount;

accounts[j].setaccno(this.accno1);

accounts[j].setname(this.name);

accounts[j].setamount(this.amount);

System.out.println("Name="+accounts[j].getname());

System.out.println("Account Number="+accounts[j].getaccno());

System.out.println("Amount="+accounts[j].getamount());

accountcount1++;

accno1++;

j++;

}

else

{

System.out.println("Amount should be greater than 500.");

}

}

else

{

System.out.println("Account Limit exceeded.");

}

}

abstract void transfer(int fromaccno,int toaccno,int amount);

}

package com.service;

interface Bank

{

void withdraw(int accno,int amount);

void deposit(int accno,int amount);

void checkbalance(int accno);

}

package com.bean;

class Account

{

private int accno;

private String name;

private int amount;

public Account(int accno, String name, int amount)

{

this.accno=accno;

this.name=name;

this.amount=amount;

}

public void setname(String name)

{

this.name=name;

}

public void setaccno(int accno)

{

this.accno=accno;

}

public void setamount(int amount)

{

this.amount=amount;

}

public String getname()

{

return name;

}

public int getaccno()

{

return accno;

}

public int getamount()

{

return amount;

}

}

class MyException extends Exception

{

MyException()

{

super();

}

MyException(String msg)

{

super(msg);

}

}

package com.service;

class MyBank extends AccountInitialization implements Bank

{

public void transfer(int fromaccno, int toaccno,int amount)

{

if(accountcount!=0)

{

for(i=0;i<10;i++)

{

try

{

if(accounts[i].getaccno()==fromaccno)

{

for(int j=0;j<10;j++)

{

try

{

if(accounts[j].getaccno()==toaccno)

{

if(accounts[i].getamount()-amount>500)

{

accounts[i].setamount(accounts[i].getamount()-amount);

accounts[j].setamount(accounts[j].getamount()+amount);

break;

}

else

{

System.out.println("Minimum balance 500 should be maintained.");

}

}

throw new MyException("to account number not matched");

}

catch(MyException e)

{

System.out.println(e.toString());

break;

}

}

break;

}

throw new MyException("from account number not matched");

}

catch(MyException e){

System.out.println(e.toString());

break;

}

}

}

else

{

System.out.println("Account is not created yet. You should Create Your account first");

}

}

public void withdraw(int accno1,int amount1)

{

if(accountcount!=0)

{

for(int i=0;i<10;i++)

{

try

{

if(accounts[i].getaccno()==accno1)

{

if((accounts[i].getamount()-amount1)>500)

{

accounts[i].setamount(accounts[i].getamount()-amount1);

System.out.println("Amount withdrawn successfully");

break;

}

else

{

System.out.println("Minimum balance 500 should be maintained.");

}

}

throw new MyException("Account mismatch");

}

catch(MyException e){

System.out.println(e.toString());

break;

}

}

}

else

{

System.out.println("Account is not Created. Create your account first.");

}

}

public void deposit(int accno1, int amount1)

{

if(accountcount!=0)

{

for(int i=0;i<10;i++)

{

try

{

if(accounts[i].getaccno()==accno1)

{

if(amount1<50000)

{

accounts[i].setamount(accounts[1].getamount()+amount1);

System.out.println("Amount Deposited successfully.");

}

else

{

System.out.println("Amount is more than 50000. Pancard is compulsary.");

break;

}

}

throw new MyException("Account mismatch");

}

catch(MyException e){

System.out.println(e.toString());

break;

}

}

}

else

{

System.out.println("Account is not created. create your account first.");

}

}

public void checkbalance(int accno1)

{

if(accountcount!=0)

{

for(int i=0;i<10;i++)

{

try

{

if(accounts[i].getaccno()==accno1)

{

System.out.println("Available Balance:"+accounts[i].getamount());

break;

}

throw new MyException("Account mismatch");

}

catch(MyException e){

System.out.println(e.toString());

break;

}

}

}

else

{

System.out.println("Account is not Created. Create your account first.");

}

}

}

import com.service.MyBank;

class BankTestApp

{

public static void main(String args[])

{

System.out.println("Welcome to Bank Application");

Scanner sc=new Scanner(System.in);

String name;

boolean value=true;

int accno, toaccno,amount;

MyBank mybank=new MyBank();

do

{

System.out.println("Press 1 for Create Account\nPress 2 for check Account Balance\nPress 3 for withdraw the amount\nPress 4 for Deposit\nPress 5 for Transfer\nPress 6 for exit the Application: ");

int choose= sc.nextInt();

switch(choose)

{

case 1:

System.out.println("Press 1 for Default details\nPress 2 for name and Amount pass:");

int ch=sc.nextInt();

switch(ch)

{

case 1: mybank.accountcreate();

break;

case 2: System.out.println("Enter Name:");

name=sc.next();

System.out.println("Enter amount:");

amount=sc.nextInt();

mybank.accountcreate(name,amount);

break;

default:

System.out.println("Invalied choice.");

}

case 2: System.out.println("For Check Balance");

System.out.println("Enter Account Number:");

accno=sc.nextInt();

mybank.checkbalance(accno);

break;

case 3: System.out.println("Withdraw Money");

System.out.println("Enter Account Number:");

accno=sc.nextInt();

System.out.println("Enter Amount:");

amount=sc.nextInt();

mybank.withdraw(accno,amount);

break;

case 4: System.out.println("Deposit Money");

System.out.println("Enter Account Number:");

accno=sc.nextInt();

System.out.println("Enter Amount:");

amount=sc.nextInt();

mybank.deposit(accno,amount);

break;

case 5: System.out.println("Transfer Money");

System.out.println("Enter Your Account Number:");

accno=sc.nextInt();

System.out.println("Enter Account Number to be transfered:");

toaccno=sc.nextInt();

System.out.println("Enter Amount to be transfered:");

amount=sc.nextInt();

mybank.transfer(accno,toaccno,amount);

break;

case 6: System.out.println("Thank you for using this bank");

value=false;

break;

default:

System.out.println("invalied choice.");

}

}while(value);

}

}}

**ASSIGNMENT NO- 7**

import java.util.\*;

public class Main

{

public static void main(String[] args) {

System.out.println("Enter the no of Names you want :"); **//Driver function**

Scanner sc=new Scanner(System.in);

int n=sc.nextInt();

String []names=new String[n];

System.out.println("Enter the Names :");

sc.nextLine();

for(int i=0;i<n;i++){

names[i]=sc.nextLine();

}

String temp;

for(int i=0;i<n;i++){

for(int j=i+1;j<n;j++){ **//Using compareTo() method**

if(names[i].compareToIgnoreCase(names[j])>0){

temp=names[i];

names[i]=names[j];

names[j]=temp;

}

}

}

System.out.println("---------------------------");

System.out.println("Names in ascending order :"); **//Display in Ascending order**

for(int i=0;i<n;i++){

System.out.println(names[i]);

}

}

}