1.Find out if the give number is an Armstrong number

Logic :- if **153** is the Supplied value then **13+53+33=1+125+27=153.**

This is same as Supplied value hence it is an Armstrong number.

Ans:

**public** **class** Armstrong{

**public** **static** **void** main(String arg[])

{

**int** num,orginnum,temp,d;

Scanner sc=**new** Scanner(System.***in***);

System.***out***.println("Enter number");

num=sc.nextInt();

orginnum=num;

temp=0;

**while**(num>0)

{

d=num%10;

temp=temp+(d\*d\*d);

num=num/10;

}

**if**(temp==orginnum) {

System.***out***.println("Armstrong number");

}

**else** {

System.***out***.println("Not an Armstrong number");

}

}

}

2) Find out the **Armstrong** number falling in the range **100-999.**

**Ans: public** **class** Armstrongrange{

**public** **static** **void** main(String arg[])

{

**int** num,temp=0,d;

**for**(**int** i=100;i<=999;i++){

num=i;

**while**(num>0){

d=num%10;

temp=temp+(d\*d\*d);

num=num/10;

}

**if**(temp==i){

System.***out***.println(i+" is an Armstrong number");

}

temp=0;

}

}

}

3) Find out the simple as well as compound interest of supplied value.

Ans: **public** **class** Interest {

**public** **static** **void** main(String arg[]) {

**double** p,r,t,n,simp,comp;

Scanner sc=**new** Scanner(System.***in***);

System.***out***.println("Enter initial principal balance");

p=sc.nextDouble();

System.***out***.println("Enter annual interest");

r=sc.nextDouble();

System.***out***.println("time");

t=sc.nextDouble();

System.***out***.println("no of time that interest is compounded ");

n=sc.nextDouble();

simp=p\*(1+r\*t);

comp=p\*Math.*pow*(1+(r/n),n\*t);

System.***out***.println("SimpleInterest= "+simp);

System.***out***.println("CompoundInterest= "+comp);

}

}

4) Supply marks of three subject and declare the result,result declaration is based on below condition.

**Condition 1:** All subjects marks is greater than 60 is passed.

**Condition 2:** Any two subjects marks are greater than 60 is Promoted

**Condition 3:** Any one subject mark is greater than 60 or all subjects marks less than 60 is failed.

Ans. **public** **class** marks {

**public** **static** **void** main(String arg[]) {

**int** m1,m2,m3;

Scanner sc=**new** Scanner(System.***in***);

System.***out***.println("Enter mark1");

m1=sc.nextInt();

System.***out***.println("Enter mark2");

m2=sc.nextInt();

System.***out***.println("Enter mark3");

m3=sc.nextInt();

**if**(m1>60 && m2>60 && m3>60) {

System.***out***.println("Passed");

}

**else** **if**((m1+m2)>60 || (m1+m3)>60) {

System.***out***.println("Promoted");

}

**else** **if**((m1<60 && m2<60 && m3<60)||(m1>60 || m2>60 || m3>60)) {

System.***out***.println("Failed");

}

**else** {

System.***out***.println("Invalid");

}

}

}

5) Calculate the income tax on the basis of following table

Note: Assume slab is consider for Male, Female as well as Senior citizen

|  |  |  |
| --- | --- | --- |
| **Slab** | **Income Range** | **Tax Payable in percentage** |
| Slab A | 0-1,80,000 | Nil |
| Slab B | 1,81,001-3,00,000 | 10% |
| Slab C | 3,00,001-5,00,000 | 20% |
| Slab D | 5,00,001-10,00,000 | 30% |

Accept CTC from user and display tax amount

Ans) **public** **class** Incometax {

**public** **static** **void** main(String arg[]) {

**int** ctc;

**double** tax;

Scanner sc=**new** Scanner(System.***in***);

System.***out***.println("Enter you CTC");

ctc=sc.nextInt();

**if** (ctc<=180000) {

System.***out***.println("No tax");

}

**else** **if**((ctc>=1810001) || (ctc<=300000)) {

tax=(10/100)\*ctc;

System.***out***.println("Slab B tax is"+tax);

}

**else** **if**((ctc>=300001)||(ctc<=500000)) {

tax=ctc\*(20/100);

System.***out***.println("Slab C tax is"+tax);

}

**else** **if**((ctc>=500001)||(ctc>=100000)) {

tax=ctc\*(30/100);

System.***out***.println("Slab D tax is"+tax);

}

**else** {

System.***out***.println("Incorrect Data");

}

}

}

6)Consider a CUI based application, where you are asking a user to enter his Login name and password, after entering the valid user-id and password it will print the message “Welcome” along with username. As per the validation is concerned, the program should keep a track of login attempts. After three attempts a message should be flashed saying “Contact Admin” and the program should terminate.

Ans) **public** **class** logincheck {

**public** **static** **void** main(String srg[]) {

String username,password;

**int** totalattempt=3;

Scanner s=**new** Scanner(System.***in***);

**while**(totalattempt!=0) {

System.***out***.println("Enter username");

username=s.nextLine();

System.***out***.println("Enter password");

password=s.nextLine();

**if** ((username.equals("username"))&&(password.equals("password"))) {

System.***out***.println("Welcome "+username);

}

**else** {

System.***out***.println("Invalid");

totalattempt--;

}

}

System.*exit*(1);

}

}

7)There is an array which is of the size 15 which may or may not be sorted.You should write a program to accept a number and search if it is contained in the array

Example:

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 5 | 12 | 14 | 6 | 78 | 19 | 1 | 23 | 26 | 35 | 37 | 7 | 52 | 86 | 47 |  |

Ans) **public** **class** searchkey {

**public** **static** **void** main(String arg[]) {

**int** [] a= {5,12,14,6,78,19,1,23,26,35,37,7,52,86,47};

**int** i,searchkey,flag=0;

Scanner s=**new** Scanner(System.***in***);

System.***out***.println("Enter a number");

searchkey=s.nextInt();

**for**(i=0;i<15;i++) {

**if**((searchkey)==a[i]) {

flag=1;

**break**;

}

}

**if**(flag==1) {

System.***out***.println(searchkey+" is found");

}

**else** {

System.***out***.println(searchkey+" is not found");

}

}

}

8) Using the above table write method apply sorting using bubblesort

Ans**public** **class** bubblesort {

**public** **static** **void** main(String arg[]) {

**int**[] a={5,12,14,6,78,19,1,23,26,35,37,7,52,86,47};

**int** i,j,n,temp;

**for**(i=0;i<14;i++) {

**for**(j=i+1;j<15;j++) {

**if**(a[i]>a[j]) {

temp=a[i];

a[i]=a[j];

a[j]=temp;

}

}

}

System.***out***.println("After sorting");

**for**(i=0;i<15;i++) {

System.***out***.println(a[i]);

}

}

}

9) Accept the marks of three students for the subject say A,B,C. Find the total scored and the average in all the subjects. Also Find the total and Average scored by students in each respective Subject

**public** **class** Student {

**public** **static** **void** main(String arg[]) {

**int** n,sub,total=0,avg=0;

String name;

**int** mark[];

Scanner s=**new** Scanner(System.in);

Student();

{

System.***out***.println("Enter name");

name=s.nextLine();

getMarks();

}

**public** **void** getMarks()

{

mark=**new** **int**[3];

System.***out***.println("Enter the mark of A");

mark[0]=s.nextInt();

System.***out***.println("Enter the mark of B");

mark[1]=s.nextInt();

System.***out***.println("Enter the mark of C");

mark[2]=s.nextInt();

**for**(**int** i=0;i<3;i++) {

total=total+mark[i];

avg=(total/3);

}

System.***out***.println("total mark scored" +total);

System.***out***.println("average mark scored" +avg);

}