**Slip9**

[November 01, 2023](https://nilambariblogfortybsc-cs.blogspot.com/2023/11/slip9.html)

 Q1) Define a “Clock” class that does the following ; a. Accept Hours, Minutes and Seconds b. Check the validity of numbers c. Set the time to AM/PM mode Use the necessary constructors and methods to do the above task [10 marks]

import java.util.\*;

class Clock {

   int hr,min,sec; //store hours

   public Clock (int hr, int min, int sec)

   {

       this.hr=hr;

this.min=min;

this.sec=sec;

   }

   public boolean checktime()

   {

boolean hflag,mflag,sflag;

       if (hr>=0 && hr < 24)

hflag=true;

        else

hflag=false;

if (min >=0 && min < 60)

          mflag=true;

        else

mflag=false;

       if (sec >=0 && sec < 60)

          sflag=true;

        else

sflag=false;

if(hflag&&mflag&&sflag)

return true;

else

return false;

   }

   public void setAMPM()

   {

      if(hr>=0 && hr<12)

System.out.println("Time  = "+hr+":"+min+":"+sec+" AM");

else

System.out.println("Time  = "+hr+":"+min+":"+sec+" PM");

   }

   }

public class Slip9\_1

{

        public static void main(String args[])

     {

     Scanner s=new Scanner(System.in);

System.out.println("Enter Hours, Minutes and Seconds");

int hh=s.nextInt();

int mm=s.nextInt();

int ss=s.nextInt();

Clock c=new Clock(hh,mm,ss);

if((c.checktime())==true)

c.setAMPM();

else

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

}

}

Q2) Write a program to using marker interface create a class Product (product\_id, product\_name, product\_cost, product\_quantity) default and parameterized constructor. Create objectsof class product and display the contents of each object and Also display the object count.

//slip9\_2

import java.util.Scanner;

interface productdetail

{

}

public class Product implements productdetail

{

static int cnt;

int pid,qty;

String pname;

double pcost;

public Product (int pid, String pname, double pcost, int qty)

{

cnt++;

this.pid = pid;

this.pname = pname;

this.pcost = pcost;

this.qty=qty;

}

public Product ()

{

cnt++;

this.pid = 0;

this.pname = "";

this.pcost = 0;

this.qty=0;

}

public String toString()

{

return pid+"\t"+pname+"\t"+pcost+"\t"+qty;

}

public static void main (String args[])

{

//reading values of the product from the user

Scanner sc = new Scanner(System.in);

System.out.println("Enter Total No. of Product");

                int n=sc.nextInt();

Product[] p=new Product [n];

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

{

    System.out.print("Enter product ID: ");

int pid = sc.nextInt();

System.out.print("Enter product name: ");

String pname = sc.next();

System.out.print("Enter product Cost: ");

double pcost = sc.nextDouble();

System.out.print("Enter product Quantity: ");

int q = sc.nextInt();

p[i]=new Product(pid, pname, pcost,q);

}

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

System.out.println("Id Name Cost Quantity");

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

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

//invoking the method to print detail

System.out.println("Total no. of. Product objects = "+Product.cnt);

}

}