**Basics of Java:**

1. Write program to print the kth digit from last. e.g. input 23617 and k=4 output 3.
2. Write a program to print first digit. e.g. input 23516 output 2.
3. Write program to print the second digit. e.g. input 23516 the output is 3.
4. Write program to find sum of all digits. Input 23617 output 2+3+6+1+7=19.
5. Write program, which will find sum of product to consecutive digits. e.g. when the input is 23145 the output is 2x3 + 3x1 + 1x4 + 4x5 = 33.
6. Write program, which reads two number (assume that both have same number of digits). The program outputs the sum of product of corresponding digits. Input 327 and 539 output 3x5+2x3+7x9=84.
7. Write program to print positional values of digits. Input 21463 output 3, 60, 400, 1000 and 20000.

**Class and Objects**:

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| --- | --- |
| class Student  {  String name, city;  int age;  static int m;  void printData()  {  System.out.println(“Student name  = “+name);  System.out.println(“Student city  = “+city);  System.out.println(“Student age  = “+age);  }  }  class Cs  {  public static void main(String args[])  {  Student s1=new Student();  Student s2=new Student();  s1.name=”Amit”;  s1.city=”Dehradun”;  s1.age=22;  s2.name=”Kapil”;  s2.name=”Delhi”;  s2.name=23;  s2.printData();  s1.printData();  s1.m=20;  s2.m=22;  Student.m=27;  System.out.println(“s1.m = “+s1.m);  System.out.println(“s2.m = “+s2.m);  System.out.println(“Student.m =  “+Student.m);  }  }  **Program shows basic functionality of java class,object, and static variable;** | class Student  {  private String name, city;  private int age;  public void getData(String x, String  y, int t)  {  name=x;  city=y;  age=t;  }  public void printData()  {  System.out.println(“Student name =  “+name);  System.out.println(“Student city =  “+city);  System.out.println(“Student age =  “+age);  }  }  class Cs  {  public static void main(String args[])  {  Student s1=new Student();  Student s2=new Student();  S2.getData(“Kapil”,”Delhi”,23);  S2.printData();  s1.getData(“Amit”,”Dehradun”,22);  s1.printData();  }  } |
| class Point  { private float x,y;  public void getPoint(float a,float b)  {x=a;y=b;}  public void print()  {  System.out.println("("+x+","+y+")");  }  public void abc() {x=2\*x;y=3\*y;}  public static Point pqr(Point a)  { Point t;  t=new Point();  t.getPoint(2\*a.x,2\*a.y);  return t;  }  public void ghi(Point a)  { x=2\*a.x;y=3\*a.y; }  public float getx()  { return x; }  }  --------------> -------------> | class hari  {  public static void main(String args[])  { Point a,b,c;float t;  a=new Point();  a.getPoint(2,4);  a.print();  a.abc();  a.print();  b=Point.pqr(a);  b.print();  a=new Point();  a.getPoint(2,4);  c=new Point();  c.ghi(a);  c.print();  t=a.getx();System.out.println(t);  }  }  In above if point p is (x,y) then, p.abc( ) will make it (2x,3y). If point r is (x,y) then, q=point.pqr will make q as (2x,2y). If point k is (x,y) then, r.ghi(k) will make r as (2x,3y) |

1. Modify first example for taking input through command line arguments.
2. Modify second example for taking input through command line arguments.
3. Define fa. If point p is (x,y) then p.fa() will make it (x+y,2y). (20,4)(24,8)
4. Define fb. If point p is (x,y) then p.fb() will make it (2x,x+y). (20,4)(40,24)Define fc. If point p is (x,y) then p.fc() will make it (x+y,x\*y). (20,4)(24,80)