**1 : Write a program to find Leader in array.**

**package** com.assignment;

**public** **class** LeaderInArray {

**public** **static** **void** findLeader(**int** num[])

{

**int** max= num[num.length-1];

System.***out***.print(max+ " ");

**for**(**int** i=num.length-2; i>=0;i--)

{

**if**(num[i] > max) {

System.***out***.print(num[i]+ " ");

max = num[i];

}

}

}

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

**int** num[] = {92,7,12,9,8,3};

*findLeader*(num);

}

}

**2:Write program for Best Time to buy and Sell stock**

/\* here buy variable to store buy cost and maxprofit to store maximum profit .

\*to increase profit we have to sell at max price and buy at min price.

\*here if current price is minimum then buy on ith day.

\*if price is greater than previous buy then make profit and maximize profit

and return maxprofit.

\*/

**package** com.assignment;

**public** **class** BestTimeToSellAndBuy {

**public** **static** **int** maximumprofit(**int** prices[],**int** n) {

**int** buy=prices[0],max\_profit=0;

**for**(**int** i=1;i< n;i++)

{

**if**(buy > prices[i])

buy = prices[i];

**else** **if**(prices[i]-buy > max\_profit)

max\_profit = prices[i]-buy ;

}

**return** max\_profit;

}

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

{

**int** prices[]= {7,1,5,3,6,4}; //buy on day 2 and sell on day 2 profit is 5

//int prices[]= {7,6,4,3,1};// in this case no transaction is done max profit is zero

**int** n=prices.length;

**int** max\_profit = *maximumprofit*(prices,n);

System.***out***.println(max\_profit);

}

}

**3:Write program for sum of all subsets XOR Totals.**

/\* eight subsets of [5,1,6] are:

\* empty subset has XOR total of 0

\* [5] has XOR total : 5

\* [1] has XOr total:1

\*/

**package** com.assignment;

**public** **class** SumOfSubsets {

**public** **static** **int** xorSum(**int** arr[],**int** n) {

**int** bits=0;

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

bits |= arr[i];

**int** answer =bits \*(**int**)Math.*pow*(2, n-1);

**return** answer;

}

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

**int** arr[]= {1,5,6};

**int** size=arr.length;

System.***out***.println("Answer is:"+*xorSum*(arr,size));

}}