

INTRODUCTION TO PROGRAMMING

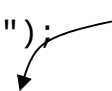
Quiz of 29/30.11.2007 and Answers

The following function finds the prime numbers up to N and prints them out. Prime numbers are the ones which cannot be exactly divided by any number except 1 (one) and itself. Complete the function by filling in the two lines left blank.

```
void Primes(int N){
    int i,k,L;
    for(i=3;i<N;i++){
        L=i>>1; /* L=sqrt(i)+1 would also do */
        for(k=2;k<=L;k++)
            if(!(i%k)) break;
        if(k>L)
            printf("%d ",i);
    }
}
```

The following function displays the calendar of a month when given the number of days in the month and the starting day of the week. The example shows the output for Nday=31 and start=3. Complete the function by filling in the two lines left blank.

```
void Month(int Nday, int start){
    int d;
    printf("Mon Tue Wed Thu Fri Sat Sun\n");
    for(d=1;d<start;d++){
        printf("    ");
    }
    for(d=1;d<=Nday;d++){
        printf(" %2d ",d);
        if(!((d+start-1)%7))
            printf("\n");
    }
    printf("\n");
}
```



Mon	Tue	Wed	Thu	Fri	Sat	Sun
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

The following function calculates the month and day of the month when the day of the year is given. When daynum=55, for example, function prints Month=2 Day=24 to indicate that day 55 of the year is the 24th day of February. Complete the function by filling in the two lines left blank.

```
void DayCount(int daynum){
    int next=0,prev=0,i;
    for(i=1;i<=12;i++){
        if((i==1)|| (i==3)|| (i==5)|| (i==7)||
            (i==8)|| (i==10)|| (i==12)) next+=31;
        if((i==4)|| (i==6)|| (i==9)|| (i==11)) next+=30;
        if(i==2) next+=28;
        if(next>=daynum) break;
        prev=next;
    }
    printf("Month=%d Day=%d\n", i, daynum-prev);
}
```