

CP 111 Computer Programming

2/2554 Section B01/B02

Lab 3 solution

1. Problem name: Mean_Min_Max

```
#include <stdio.h>
int main()
{
    int i,N,minval,sum,maxval,val,a,b;
    double avg;

    scanf("%d",&N);
    sum=0;

    for(i=0;i<N;i++)
    {
        scanf("%d",&val);
        sum=sum+val;
        if(i==0){
            minval=val;
            maxval=val;
        }
        else
        {
            if(val>maxval)
                maxval=val;
            if(val<minval)
                minval=val;
        }
    }
    avg=(double)sum/N;
    printf("%.2f\n",avg);
    printf("%d\n",minval);
    printf("%d\n",maxval);
    return 0;
}
```

2. Problem name: Hailstones

```
#include <stdio.h>

int main()
{
    int n;

    scanf("%d",&n);
    while(n!=1){
        if(n%2==0)
        {
            n=n/2;
        }
        else
        {
            n=(3*n)+1;
        }
        printf("%d\n",n);
    }
    return 0;
}
```

3. Problem name: Prime_number

```
#include <stdio.h>
int main()
{
    int num,i,is_prime;
    scanf("%d",&num);
    is_prime=1;
    for(i=2;i<num;i++)

    {
        if(num%i == 0)
        {
            is_prime=0;
            break;
        }
    }
    if(is_prime==1)
    {
        printf("%d is a prime number.\n",num);
    }
    else
    {
        printf("%d is not a prime number.\n",num);
    }
    return 0;
}
```

4. Problem name: Min_k_gt_N

```
#include <stdio.h>
int main()
{
    int N, k, sum;

    scanf("%d", &N);
    k=1;
    sum=1;
    while(k<N)
    {
        k= k+1 ;
        sum= sum+(k*k) ;
    }
    printf("%d\n", k);
    printf("%d\n", sum);
    return 0;
}
```

5. Problem name: Exp_Approx

```
#include <stdio.h>
int main()
{
    double e_x, x, x_k, k_fact;
    int k, n;
    scanf("%lf %d", &x, &n);
    e_x =1; /*start with 1 (term 0) */
    x_k= 1;
    k_fact=1;
    for(k=1; k<=n; k++ )
    {
        x_k= x_k*x ;           /*  $x^k$  */
        k_fact=k_fact*k ;      /*  $k!$  */
        e_x = e_x + (x_k/k_fact) ;
    }
    printf("%.6f\n", e_x);
    return 0;
}
```