NATIONAL INSTITUTE OF TECHNOLOGY KURUKSHETRA

Programming Methodology(Pr.)

Lab Programs

Submitted To:
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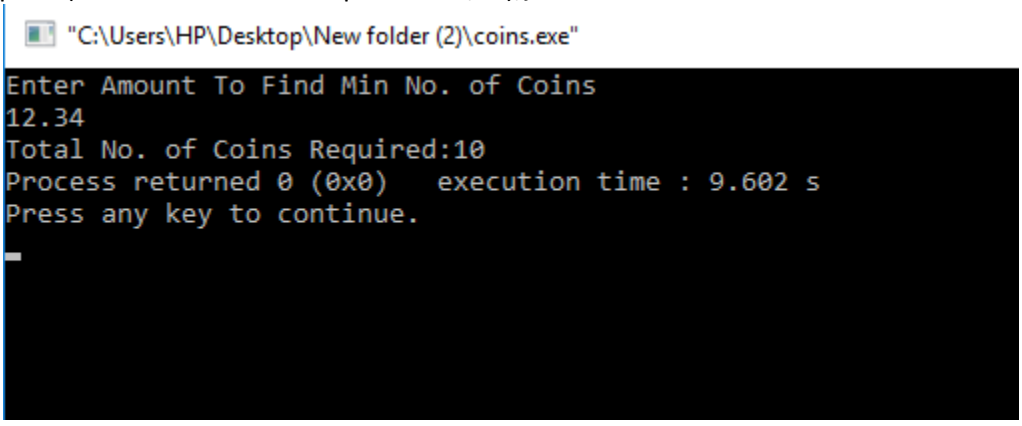
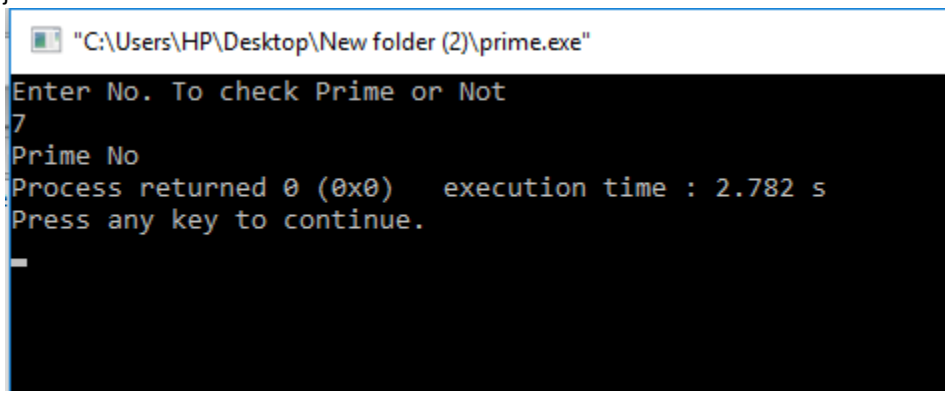
/* To find the minimum no. of coins required of 1paise, 5paise,10paise ,20 paise,50paise,1rupee,5rupee*/

```
#include<stdio.h>
void no_coins(float);
int main()
{
printf("Enter Amount To Find Min No. of Coins\n");
float n;
scanf("%f",&n);
no_coins(n);
return 0;
}
void no_coins(float num)
{int n=num;
int n1,nn=(num-(float)n)*100;
float a;
if(n!=0)
n1=n/5;
n=n%5;
if(n!=0)
n1+=n/1;
if(nn!=0)
n1+=nn/50;
nn=nn%50;
if(nn!=0)
n1+=nn/20;
nn=nn%20;
if(nn!=0)
n1+=nn/10;
nn=nn%10;
if(nn!=0)
n1+=nn/5;
nn=nn%5;
if(nn!=0)
n1+=nn/1;
printf("Total No. of Coins Required:%d",n1);}
```

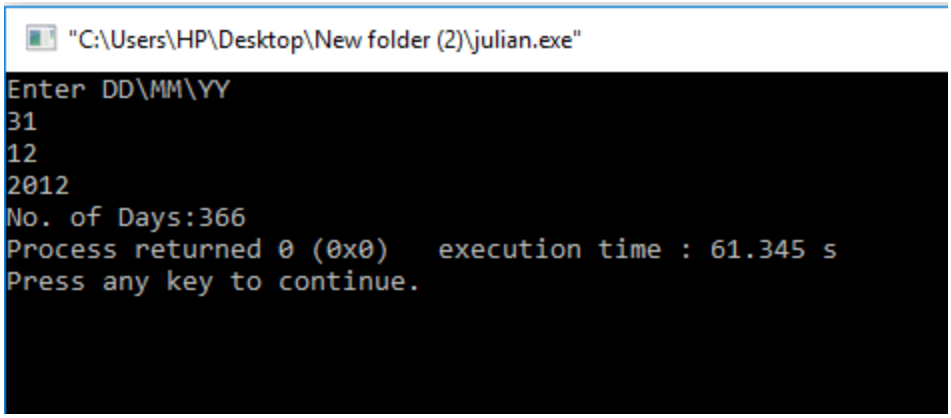


/*To check for a prime number*/

```
#include<stdio.h>
#include<math.h>
void prime(int n);
int main()
{
printf("Enter No. To check Prime or Not\n");
int n;
scanf("%d",&n);
prime(n);
return 0;
}
void prime(int n)
{
int a;
for(a=2;a<=sqrt(n);a++)
{
if(n%a==0)
break;
}
if(a>sqrt(n))
printf("Prime No");
else
printf("Not a Prime No");
}
```

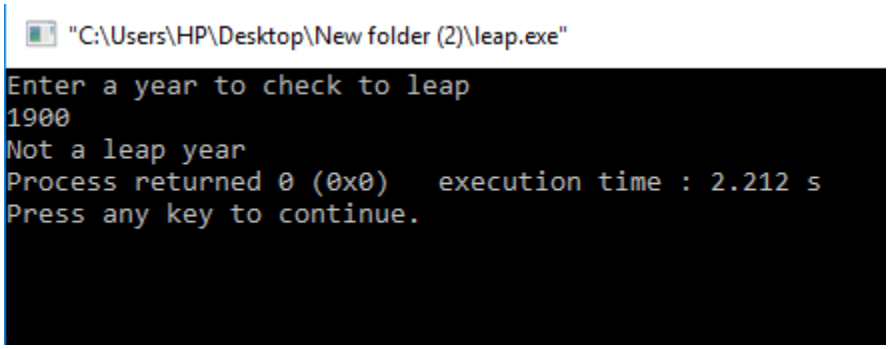


```
/*To compurte julian Day*/
#include<stdio.h>
int main()
{
printf("Enter DD\\MM\\YY\n");
int d,m,y;
scanf("%d%d%d",&d,&m,&y);
int day=julian_day(d,m,y);
if(day)
  printf("No. of Days:%d",day) ;
return 0;
}
int julian_day(int d,int m,int y)
{int count=0;
if(m==1)
return d;
else
{
switch(m)
{
case 12:
count+=31;
case 11:
count+=30;
case 10:
count+=31;
case 9:
count+=30;
case 8:
count+=31;
case 7:
count+=31;
case 6:
count+=30;
case 5:
count+=31;
case 4:
count+=30;
case 3:
count+=31;
case 2:
if(y%100!=0 && y%4==0 || y%400==0)
count+=29;
else
count+=28;
case 1:
count+=31;
return count;}}}
```



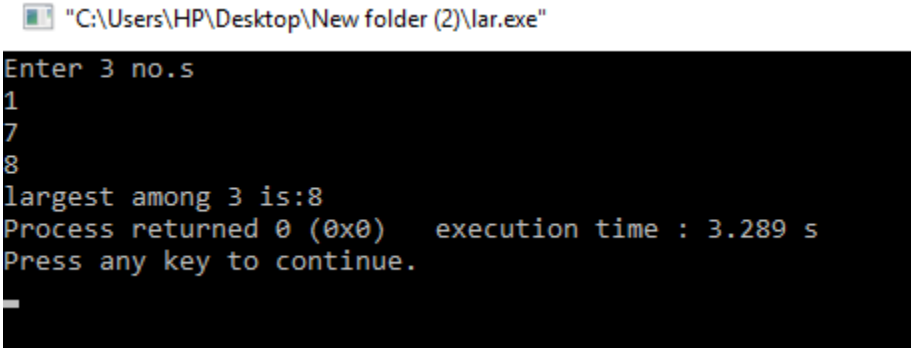
/*To check for leap year*/

```
#include<stdio.h>
int main()
{printf("Enter a year to check to leap\n");
int yr;
scanf("%d",&yr);
if(yr%100!=0 && yr%4==0 || yr%400==0)
printf("leap year");
else
printf("Not a leap year");
return 0;
}
```



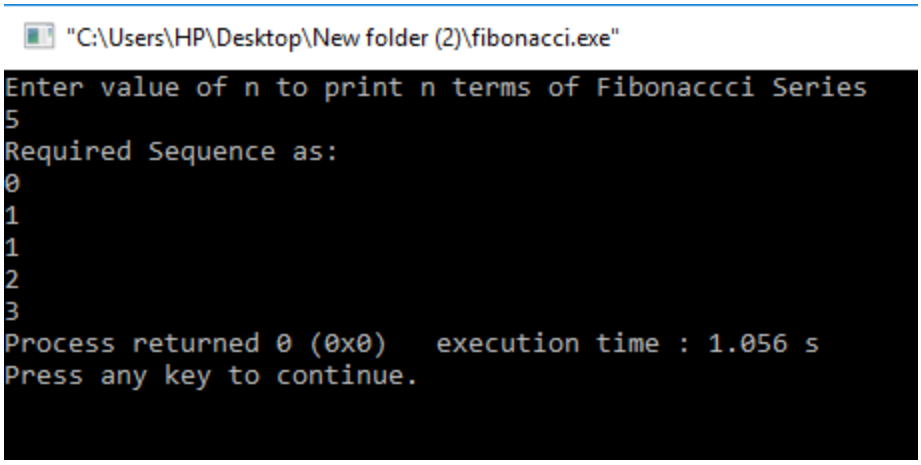
/*To find largest among 3 entered Numbers*/

```
#include<stdio.h>
int main()
{
printf("Enter 3 no.s\n");
int a,b,c;
scanf("%d%d%d",&a,&b,&c);
int tmp=(a>b)?a:b;
tmp=(tmp>c)?tmp:c;
printf("largest among 3 is:%d",tmp);
return 0;
}
```



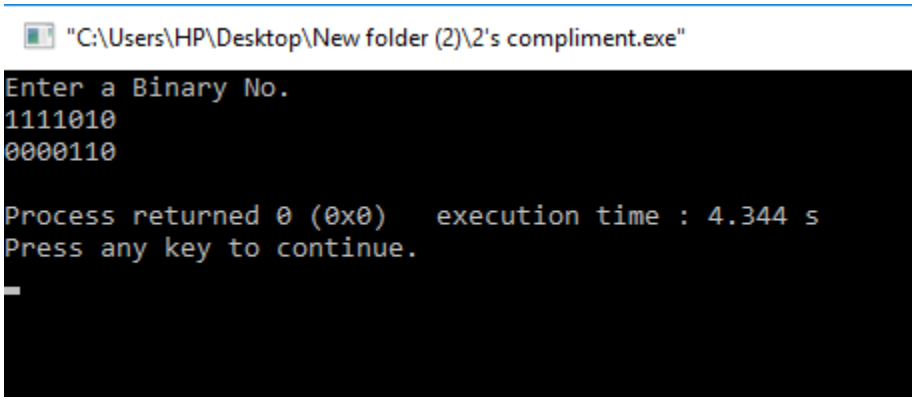
/*program to print first n terms of Fibonacci Series*/

```
#include<stdio.h>
void fibonacci(int );
int main()
{printf("Enter value of n to print n terms of Fibonaccci Series\n");
int n;
scanf("%d",&n);
fibonacci(n);
return 0;
}
void fibonacci(int n)
{
int a=0,b=1,c;
int x=0;
printf("Required Sequence as:");
for(c=0;c<n;c++)
{printf("\n%d",x);
a=b;b=x;
x=a+b;
}
}
```



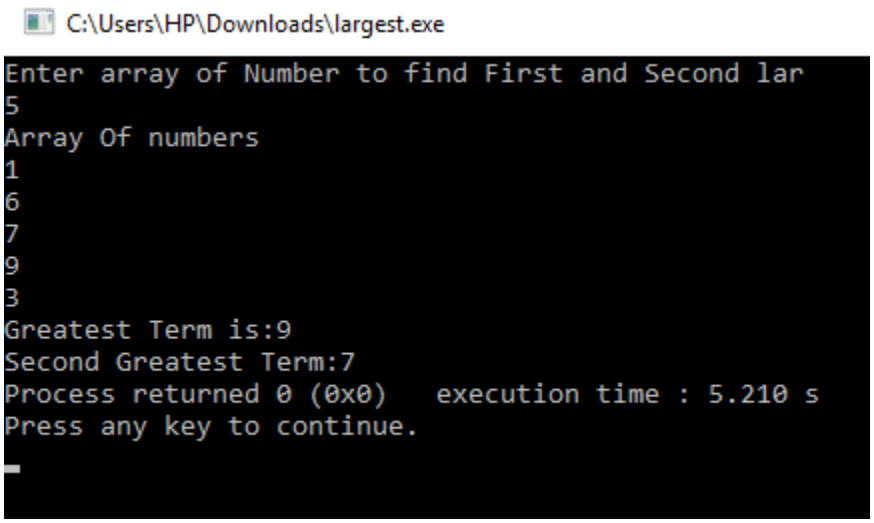
/*To find 2's complement*/

```
#include<stdio.h>
#include<string.h>
int main()
{
printf("Enter a Binary No.\n");
char b[30];
gets(b);
int l,a;
l=strlen(b)-1;
while(b[l]!='1')
--l;
for(a=0;a<l;a++)
{
b[a]=(!((b[a]-'0')&&1))+'0';
}
puts(b);
return 0;
}
```



/*Program to find first and second largest number in O(n)*/

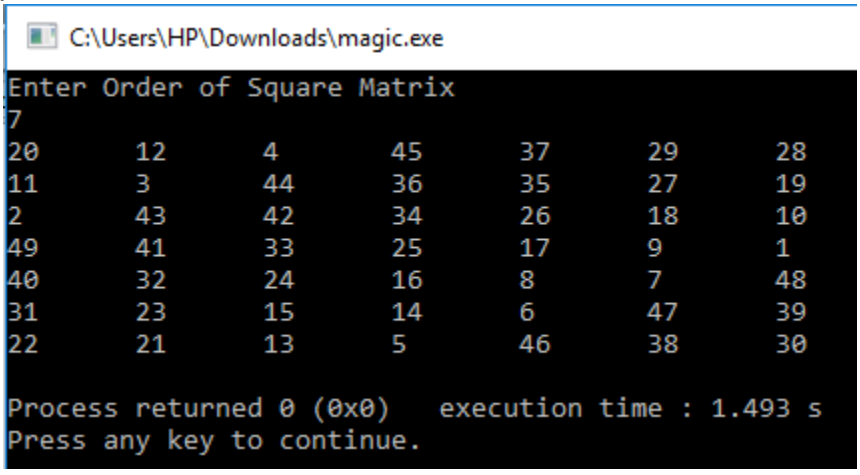
```
#include<stdio.h>
#include<limits.h>
void greatest(int *,int *,int *,int );
int main()
{printf("Enter array of Number to find First and Second lar\n");
int n;
scanf("%d",&n);
int a,arr[n];
printf("Array Of numbers\n");
for(a=0;a<n;a++)
scanf("%d",&arr[a]);
int l,s_l;
greatest(arr,&l,&s_l,n);
printf("Greatest Term is:%d\n",l);
if(s_l!=INT_MIN)
   printf("Second Greatest Term:%d",s_l);
else printf("No SecGreatest Element Exit\n");
return 0;
}
void greatest(int *arr,int *l,int *sl,int n)
{int x=0;
*l=arr[0],*sl=INT_MIN;
 for(x=1;x<n;x++)
  {if(*l<arr[x])
      *l=arr[x];}
      for(x=0;x<n;x++)
   if(*sl<arr[x] && arr[x]<*l)
   *sl=arr[x];
}
```



/*Program of Magic Square for odd order*/

```
#include<stdio.h>
#include<math.h>
int main()
{
   printf("Enter Order of Square Matrix\n");
   int o,r,c,a,b;
   scanf("%d",&o);
   r=o/2;c=o-1;
   int matrix[o][o];
     for(a=0;a<o;a++)
   {
      for(b=0;b<o;b++)
         matrix[a][b]=0;
   }
   for(a=1;a<=pow(o,2);a++)
   {
     if(r==-1 && c==o)
      {r=0;c=o-2;}
      else if(r==-1) r=o-1;
      else if(c==o) c=0;
      if(1<=matrix[r][c] && matrix[r][c]<=pow(o,2))
    {r++;c=c-2;}
    matrix[r][c]=a;
      --r;++c;
   }

   for(a=0;a<o;a++)
   {
      for(b=0;b<o;b++)
         printf("%d\t",matrix[a][b]);
      printf("\n");
   }
return 0;
}
```



/*program to check a given alphabet is vowel or not*/

```
#include<stdio.h>
#include<ctype.h>
int main()
{printf("Enter a alphabet to check whether vowel or not\n");
char a;
scanf("%c",&a);
a=tolower(a);
switch(a)
{case 'a':
case 'e':
case 'i':
case 'o':
case 'u':
printf("Vowel");
break;
default:
printf("Not a Vowel");
}
return 0;
}
```