WINTER SEMESTER 2016

CSE2003: DATA STRUCTURES AND ALGORITHMS (EMBEDDED LAB) SLOT: L51+L52

FACULTY: THENDRAL.P

ASSIGNMENT-1

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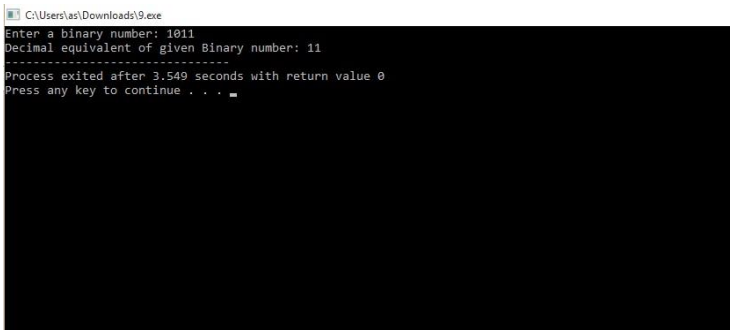
9.Take an input binary number like 10110 and convert it into its decimal equivalent. (10110à(1*2 power 4)+(0*2 power 3)+(1*2 power 2)+(1*2 power 1)+(0*2 power 0)

Code:

```
#include<stdio.h>
int main(){
   int b,d=0,j=1,r;
   printf("Enter a binary number: ");
   scanf("%ld",&b);
   while(b!=0){
       r=b%10;
      d=d+r*j;
      j=j*2;
      b=b/10;
   }
   printf("Decimal equivalent of given Binary number: %d",d);
   return 0;
}
```

Output:



10. Apply the mathematical logic and generate the following series, 1/5! + 2/4! + 3/3! + 4/2!+ 5/1! (!- represents Factorial) Also compute the value of the series.

Code:

```
#include<stdio.h>
#include<math.h>
int Fact(int x);

int main(){
printf("Enter the number of terms:");
int i,n,sum=0,z;
scanf("%d",&n);
printf("\nThe series is: ");
for(i=0;i<n;i++){
   z=Fact(n-i);
   sum+=(i+1)/z;
```

```
printf("%d/%d!",i+1,n-i);
if(i+1!=n){printf("+");}
}
printf("\n\n\tThe sum of the above series is: %d\n\n",sum);
}

int Fact(int x)
{
if (x == 1||x==0){return x;};
x*=Fact(x-1);
}
```

Output: