CSA5734-FUNDAMENTALS OF COMPUTING WITH OPERATING SYSTEMS

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1.C Program to solve quadratic equation.

C PROGRAM:

```c
#include<stdio.h>

#include<math.h>

int main()

{

    int a,b,c;

    float d,s1,s2,r1,r2;

    printf("enter a,b,c values");

    scanf("%d%d%d",&a,&b,&c);

    d=b*b-4*a*c;

    s1=-b+sqrt(d);

    s2=-b-sqrt(d);

    r1=(s1)/2*a;

    r2=(s2)/2*a;

    if(d==0)

    {

        printf("roots are equal=%.2f and %.2f",r1,r2);

    }

    else if(d>0)

    {
```

T.INDU PRIYA
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```
    printf("root are real=%.2f and %.2f",r1,r2);

}

else

{

    printf("roots are imaginary");

}

}
```

2.C Program for decimal to binary conversion.

C PROGRAM:

```
#include<stdio.h>

#include<stdlib.h>

int main()

{

    int a[10],n,i;

    printf("Enter the number to convert: ");

    scanf("%d",&n);

    for(i=0;n>0;i++)

    {

        a[i]=n%2;

        n=n/2;

    }
```

```c
    printf("\nBinary of Given Number is=");

    for(i=i-1;i>=0;i--)

    {

        printf("%d",a[i]);

    }

    return 0;

}
```

3.C Program factorial using recursion.

C PROGRAM:

```c
#include<stdio.h>

long factorial(int n)

{

    if (n==0)

    return 1;

    else

    return(n*factorial(n-1));

}

void main()

{

    int number;

    long fact;
```

T.INDU PRIYA
192110486

```c
    printf("Enter a number: ");

    scanf("%d",&number);

    fact =factorial(number);

    printf("Factorial of %d is %ld\n", number, fact);

    return 0;

}
```

4.**Write a C program to ask your name, program name and enrollment number and print it on the screen.**

C PROGRAM:

```c
#include<stdio.h>

int main()

{

    char name[10],nprog[10];

    int enrolno;

    printf("enter name: ");

    scanf("%s",&name);

    printf("enter program name: ");

    scanf("%s",&nprog);

    printf("enter enrollment number: ");

    scanf("%d",&enrolno);

    printf("Name:%s",name);
```

T.INDU PRIYA
192110486

```
printf("\nProgram name:%s",nprog);

printf("\nEnrollment number:%d",enrolno);
}
```

5.Write a C program to find the sum, the average and the product of the four integers entered.

C PROGRAM:

```
#include<stdio.h>

int main()

{

    int n1,n2,n3,n4,sum,avg,product;

    printf("enter four integers ");

    scanf("%d%d%d%d",&n1,&n2,&n3,&n4);

    sum=n1+n2+n3+n4;

    avg=sum/4;

    product=n1*n2*n3*n4;

    printf("sum=%d",sum);

    printf("\navg=%d",avg);

    printf("\nproduct=%d",product);

}
```

6.Write a C program to exchange the values of two variables.

C PROGRAM:

```
#include<stdio.h>
```

T.INDU PRIYA
192110486

```c
int main()

{

    int n1,n2,temp;

    printf("enter first number ");

    scanf("%d",&n1);

    printf("enter second number ");

    scanf("%d",&n2);

    temp=n1;

    n1=n2;

    n2=temp;

    printf("n1=%d\n",n1);

    printf("n2=%d",n2);

}
```

7.Write a C script to display the digits which are in odd position in a given 5 digit number.

C PROGRAM:

```c
#include<stdio.h>

int main()

{

    int n,rem,odd=0,digit;

    printf("enter a number ");
```

T.INDU PRIYA
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```
scanf("%d",&n);

printf("\nodd digits present in %d are ",n);

while(n>0)

{

    digit=n%10;

    n=n/10;

    rem=digit%2;

    if(rem!=0)

    printf("\n%d",digit);

}

return 0;

}
```

8.Write a C program to reverse the digits of five digit integer.

C PROGRAM:

```
#include<stdio.h>

int main()

{

    int n,r,sum=0;

    printf("enter a number ");

    scanf("%d",&n);

    while(n!=0)
```

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```c
{
    r=n%10;

    sum=sum*10+r;

    n=n/10;

}

printf("reverse of given number=%d",sum);

return 0;

}
```

9.Write a C program to concatenate two strings and find the length of the resultant string.

C PROGRAM:

```c
#include<stdio.h>

#include<string.h>

int main()

{

    char s1[100],s2[100];

    int i,j;

    printf("enter string1: ");

    scanf("%s",s1);

    printf("enter string2:");

    scanf("%s",s2);
```

```c
j=strlen(s1);

for(i=0;s2[i]!='\0';i++)

{

    s1[i+j]=s2[i];

}

s1[i+j]='\0';

printf("combined two strings='%s'\n",s1);

printf("length of the string: %d",i+j);

return 0;

}
```

10.Write a C program to find the position of substring in given string.

C PROGRAM:

```c
#include<stdio.h>

int main()

{

    char str1[10],str2[10];

    int l,i,j;

    printf("enter first string: ");

    gets(str1);

    printf("enter second string: ");

    gets(str2);
```

T.INDU PRIYA
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```c
for(l=0;str2[l]!='\0';l++);

for(i=0,j=0;str1[i]!='\0'&& str2[j]!='\0';i++)

{

    if(str1[i]==str2[j])

    {

        j++;

    }

    else

    {

        j=0;

    }

}

if(j==l)

{

    printf("substring found at position %d",i-j+1);

}

else

{

    printf("substring not found");

}

return 0;
```

T.INDU PRIYA
192110486

}

11.Write a Cprogram to find the gcd for the 2 given numbers.

C PROGRAM:

```c
#include <stdio.h>

int main()

{

   int n1,n2,i,gcd;

   printf("Enter two integers: ");

   scanf("%d %d",&n1,&n2);

   for(i=1;i<=n1 && i<=n2;++i)

   {

      if(n1%i==0 && n2%i==0)

      gcd=i;

   }

   printf("G.C.D of %d and %d is %d",n1,n2,gcd);

   return 0;

}
```

12.Write a C program to add, subtract and multiply the 2 given numbers passed as command line arguments.

C PROGRAM:

```c
#include<stdio.h>

int main()
```

T.INDU PRIYA
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```c
{

    int a,b;

    printf("enter two values ");

    scanf("%d%d",&a,&b);

    printf("sum=%d",a+b);

    printf("\nsub=%d",a-b);

    printf("\nmul=%d",a*b);

}
```