

```

        break;
    case 4:
        printf("\nEnter marks of the student");
        scanf("%d",&x);
        printf("Marks=%d",x);
        printf("Grade is D\n");
        break;
    case 5:
        printf("\nEnter marks of the student");
        scanf("%d",&x);
        printf("Marks=%d",x);
        printf("Grade is P\n");
        break;
    case 6:
        printf("\nEnter marks of the student");
        scanf("%d",&x);
        printf("Marks=%d",x);
        printf("Grade is F\n");
        break;
    case 7:
        exit(0);
    default:
        printf("Wrong choice!\n");
    }
}
return 0;
}

```

```

C:\User\acer\Desktop\AB.exe
Enter x will denote marks of the student
1.88xx89
1. 88xx89
1. 68xx69
1. 58xx59
1. 38xx49
0. xx35
7. exit
your choice?
1
Enter marks of the student85
Marks>85Grade is A
Now enter x will denote marks of the student
1. 88xx89
1. 88xx89
1. 68xx69
1. 58xx59
1. 38xx49
0. xx35
7. exit
your choice?
7
Process returned 0 (0x0)   execution time : 10.433 s
Press any key to continue.

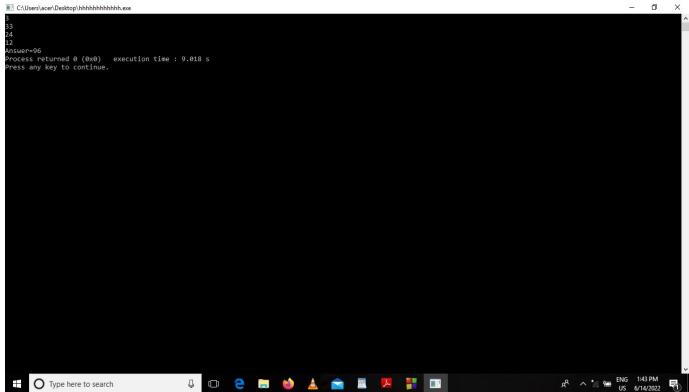
```

3. No income tax is to be paid if income is less than 5000. If income is between 5000 and 6000 then tax is 10% of the amount by which the income exceeds 5000. If income is between 6000 and 15000 then the tax is 100 + 20% of the amount by which the income exceeds 6000. If income is more than 15000 then the tax is 1900 + 30% of the amount by which the income exceeds 15000. e.g., if income is 10000 then the tax will be $100 + (10000 - 6000) * 20/100 = 900$. Write a program, which reads income and calculates the income tax.

```

#include<stdio.h>
#include<stdlib.h>
int main()
{
    int choice,x,y;
    while(1)
    {

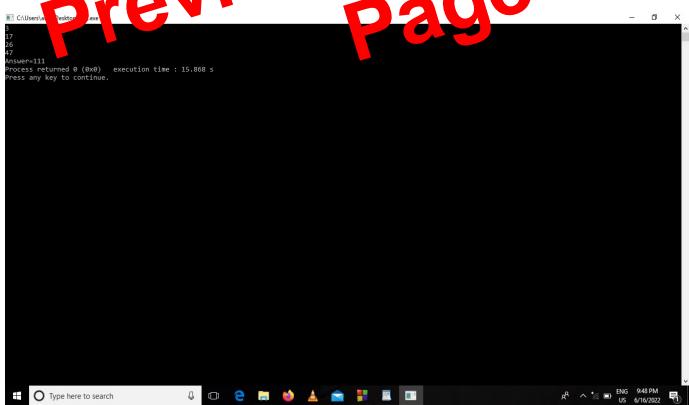
```



1
13
14
15
Answer=96
process returned 0 (0x0) execution time : 0.018 s
press any key to continue.

5. Write program, which finds sum of numbers after incrementing every even digit.

```
#include<stdio.h>
main( )
{ int n,i,u,v,w,t,sum,digit,x;
scanf("%d",&n);
sum=0;
for (i=1;i<=n;i++)
{ scanf("%d",&x);
{
u=x/10;
v=x%10;
if(u%2==0)
u=u+1;
if(v%2==0)
v=v+1;
x=(u*10)+v;
{
sum=sum+x;
}
}
printf("Answer=%d",sum);
}
```



17
16
15
Answer=211
process returned 0 (0x0) execution time : 15.000 s
press any key to continue.

6. Write program, which finds the sum of the biggest digit

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

```
C:\Users\laksh\Desktop>py.exe  
Enter a,b and c2  
|  
The output is44  
Process returned 0 (0x0) execution time : 7.814 s  
Press any key to continue.
```

12. Write program, which reads numbers x and k and finds k-th (integer) root of x

```
#include<stdio.h>  
#include<math.h>  
int main(void)  
{  
    int x,k,i;  
    printf("Enter the value of x");  
    scanf("%d",&x);  
    printf("Enter the value of k");  
    scanf("%d",&k);  
    for( i=0;i<x;i++)  
    {  
        if(x>pow(i,k)&&x<pow((i+1),k))  
        {  
            printf("The output is=%d",i);  
            break;  
        }  
    }  
}
```

```
C:\Users\laksh\Desktop>  
Enter the value of x45  
Enter the value of k3  
The output is=4  
Process returned 0 (0x0) execution time : 11.111 s  
Press any key to continue.
```

13. Write program, which reads two numbers and computes output in the following manner.

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

```

for(i=0;i<n;i++)
    scanf("%f",&b[i]);
for(i=0;i<n;i++)
    x[i]=0;
//checking for row dominance
flag=0;
for(i=0;i<n;i++)
{
    sum=0;
    for(j=0;j<n;j++)
        if(i!=j)
            sum+=fabs(a[i][j]);
    if(sum>fabs(a[i][i]))
        flag=1;
}
//checking for column dominance
if(flag==1)
    flag=0;
for(j=1;j<n;j++)
{
    sum=0;
    for(i=1;i<n;i++)
        if(i!=j)
            sum+=fabs(a[i][j]);
    if(sum>fabs(a[j][j]))
        flag=1;
}
if(flag==1)
{
    printf("The coefficient matrix is not diagonally dominant \n");
    printf("The Gauss-Jacobi method does not converge surely");
    exit(0);
}
for(i=0;i<n;i++)
    printf(" x[%d] ",i);
printf("\n");
do
{
    for(i=0;i<n;i++)
    {
        sum=b[i];
        for(j=0;j<n;j++)
            if(j!=i)
                sum-=a[i][j]*x[j];
        xn[i]=sum/a[i][i];
    }
    for(i=0;i<n;i++)
        printf("%8.5f ",xn[i]);
    printf("\n");
    flag=0;
    //indicates |x[i]-xn[i]|<epp for all i
    for(i=0;i<n;i++)
        if(fabs(x[i]-xn[i])<epp)
            flag=1;
    if(flag==1)
        for(i=1;i<n;i++)
            x[i]=xn[i]; //reset x[i]
}while(flag==1);

```

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