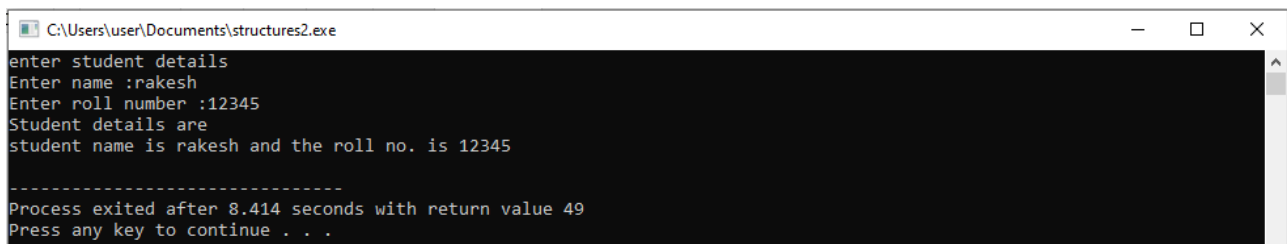


1. Store information of a student using structure

```
#include<stdio.h>
struct student
{
    char name[20];
    int roll;
};
void main()
{
    int i;
    struct student s1;
    printf("enter student details\n");
    printf("Enter name :");
    scanf("%s",s1.name);
    printf("Enter roll number :");
    scanf("%d",&s1.roll);
    printf("Student details are\n");
    printf("student name is %s and the roll no. is %d\n",s1.name,s1.roll);
}
```



```
C:\Users\user\Documents\structures2.exe
enter student details
Enter name :rakesh
Enter roll number :12345
Student details are
student name is rakesh and the roll no. is 12345

-----
Process exited after 8.414 seconds with return value 49
Press any key to continue . . .
```

Add two complex numbers by passing structures to a function

```
#include<stdio.h>
struct comp
{
    float real;
    float img;
};
void result(struct comp a,struct comp b);
void main()
{
    struct comp a1,a2;
    printf("enter 1st complex number real and imaginary parts\n");
    scanf("%f%f",&a1.real,&a1.img);
    printf("enter 2nd complex number real and imaginary parts\n");
    scanf("%f%f",&a2.real,&a2.img);
    result(a1,a2);
}
```

```

}
void result(struct comp x,struct comp y)
{
    struct comp res;
    res.real=x.real+y.real;
    res.img=x.img+y.img;
    printf("result complex number is =%.1f+%.1fi",res.real,res.img);
}

```

The screenshot shows the GDB online Debugger interface. The code editor displays the following C program:

```

1 #include<stdio.h>
2 struct comp
3 {
4     float real;
5     float img;
6 };
7 void result(struct comp a,struct comp b);
8 void main()
9 {
10     struct comp a1,a2;
11     printf("enter 1st complex number real and imaginary parts\n");

```

The console output shows the program execution:

```

enter 1st complex number real and imaginary parts
3
4
enter 2nd complex number real and imaginary parts
6
8
result complex number is =9.0+12.0i
...Program finished with exit code 0
Press ENTER to exit console.

```

Store information of 10 students using structures

```

#include<stdio.h>
struct student
{
    char name[20];
    int marks;
    float perc;
}s[10];
void main()
{
    printf("enter 10 student details");
    for(int i=0;i<10;i++)
    {   printf("Enter name, marks and percentage of the student");
        scanf("%s%d%f",s[i].name,&s[i].marks,&s[i].perc);
    }
    printf("The 10 student details are");
}

```

```

for(int i=0;i<10;i++)
{
    printf("Name=%s\t marks=%d\t percentage=%f\n",s[i].name,s[i].marks,s[i].perc);
}
}

```

```

GDB online Debugger | Compiler - Code, Compile, Run, Debug online C, C++ - Google Chrome
GDB online Debugger | C x WhatsApp x GDB online Debugger | C x GDB online Debugger | C x GDB online Debugger | C x GDB online Debugger | C x
onlinegdb.com
input
21
46245624
Enter name, marks and percentage of the studentNorma
21
43513451
Enter name, marks and percentage of the studentNick
21
2453451345134
Enter name, marks and percentage of the studentRoger
21
3513516
Enter name, marks and percentage of the studentNicki
12
15346254
Enter name, marks and percentage of the studentNeethi
21
354651345
Enter name, marks and percentage of the studentLoman
31
462456245
Enter name, marks and percentage of the studentNikhil
12
351346245
The 10 student details areName=Nikhil marks=12 percentage=1435134.000000
Name=Shashank marks=31 percentage=2351346.000000
Name=Manki marks=21 percentage=46245624.000000
Name=Norma marks=21 percentage=43513452.000000
Name=Nick marks=21 percentage=2453451309050.000000
Name=roger marks=21 percentage=3513516.000000
Name=Nicki marks=12 percentage=15346254.000000
Name=Neethi marks=21 percentage=354651360.000000
Name=Loman marks=31 percentage=462456256.000000
Name=nikhil marks=12 percentage=351346240.000000
...Program finished with exit code 0
Press ENTER to exit console.

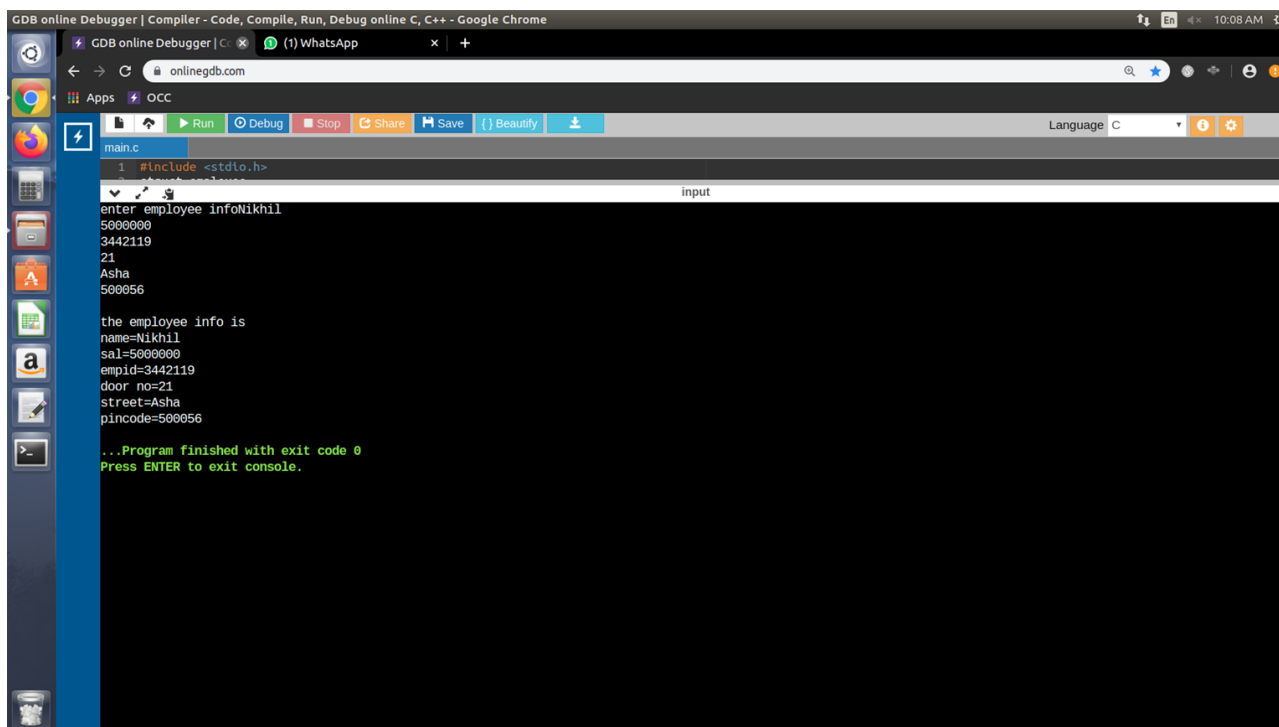
```

Store Employee information using nested structure

```

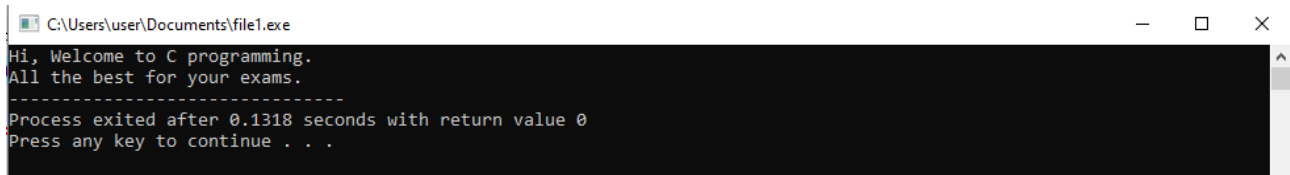
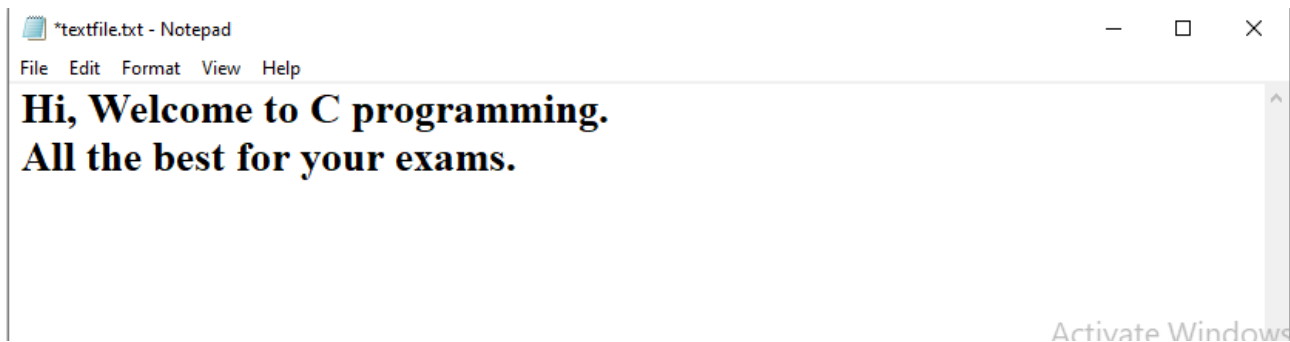
#include <stdio.h>
struct employee
{
    char name[50];
    int sal;
    int empid;
    struct address
    {
        int doorno;
        char street[50];
        int pincode;
    }a1;
}e1;
void main()
{
    printf("enter employee info");
    scanf("%s%d%d%d%s%d",e1.name,&e1.sal,&e1.empid,&e1.a1.doorno,e1.a1.street,&e1.a1.pincode);
    printf("\nthe employee info is\n");
    printf("name=%s\nsal=%d\nempid=%d\ndoorno=%d\nstreet=%s\npincode=%d",e1.name,e1.sal,e1.empid,e1.a1.doorno,e1.a1.street,e1.a1.pincode);
}

```



Read file contents and display on console.

```
#include<stdlib.h>
void main()
{
    FILE *fp;
    char ch;
    fp=fopen("E:/ramani/college-work/subjects/CP/textfile.txt","r");
    if(fp==NULL)
    {
        printf("error");
        exit(0);
    }
    while((ch=fgetc(fp))!=EOF)
    {
        putchar(ch);
    }
    fclose(fp);
}
```



Read numbers from a file and write even and odd numbers to separate file.

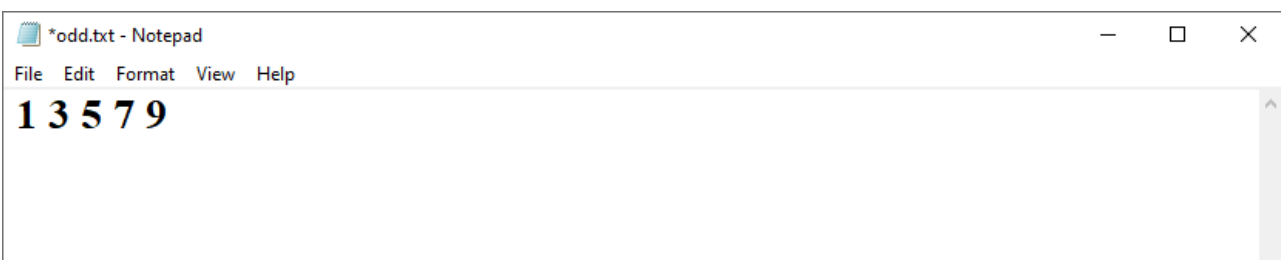
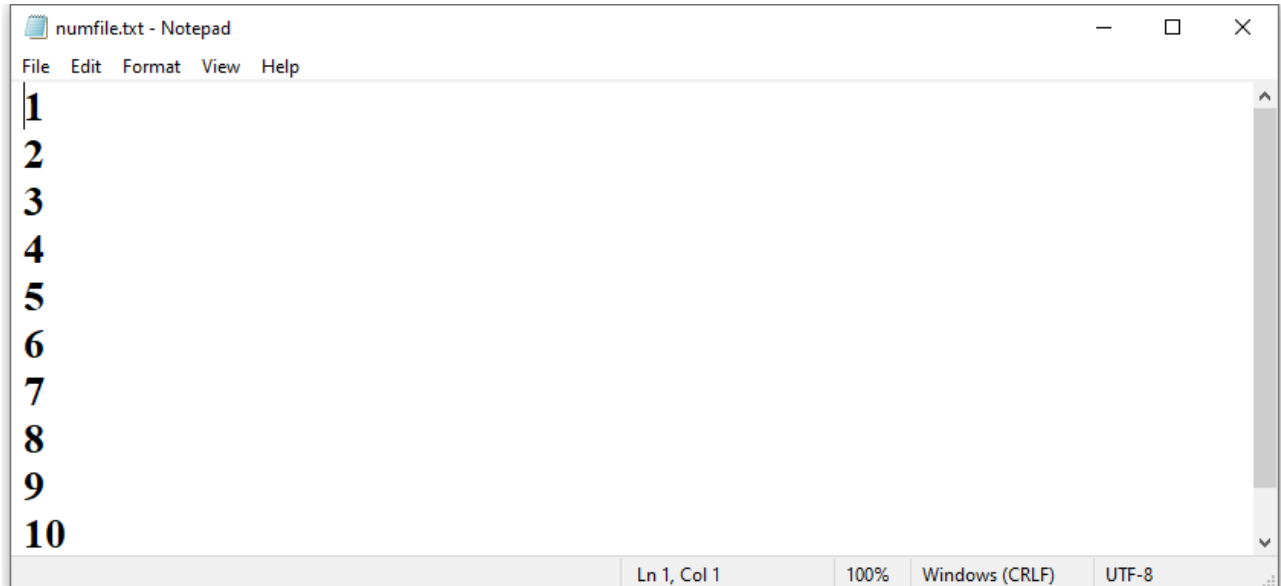
```
#include<stdio.h>
#include<stdlib.h>
void main()
{
    FILE *fp,*fp1,*fp2;
    int a;
    fp=fopen("E:/ramani/college-work/subjects/CP/numfile.txt","r");
    if(fp==NULL)
    {
        printf("error");
        exit(0);
    }
    fp1=fopen("E:/ramani/college-work/subjects/CP/even.txt","w");
    if(fp1==NULL)
    {
        printf("error");
        exit(0);
    }
    fp2=fopen("E:/ramani/college-work/subjects/CP/odd.txt","w");
    if(fp2==NULL)
    {
        printf("error");
        exit(0);
    }

    while(fscanf(fp,"%d",&a)!=EOF)
    {
        if (a%2==0)
            fprintf(fp1,"%d ",a);
        else
            fprintf(fp2,"%d ",a);
    }
}
```

```

    }
    fclose(fp);
    fclose(fp1);
    fclose(fp2);
}

```



Count characters, words and lines in a text file.

```

#include<stdio.h>
#include<stdlib.h>
void main()
{
    FILE *fp;
    char ch;
    int characters=0,lines=0,words=0;

```

```

fp=fopen("E:/ramani/college-work/subjects/CP/textfile.txt","r");
if(fp==NULL)
{
    printf("error");
    exit(0);
}

while((ch=fgetc(fp))!=EOF)
{
    characters++;
    /* Check new lines */
    if (ch == '\n' )|| ch == '\0')
    {
        lines++;
        //characters++;
    }

    /* Check words */
    if (ch == ' ' || ch == '\t' || ch == '\n' )|| ch == '\0')
    {
        words++;
        //characters++;
    }
}
/* Increment words and lines for last word */
if (characters > 0)
{
    words++;
    lines++;
}

/* Print file statistics */
printf("\n");
printf("Total characters = %d\n", characters);
printf("Total words    = %d\n", words);
printf("Total lines    = %d\n", lines);

fclose(fp);
}

```

```

C:\Users\user\Documents\file3.exe
Total characters = 58
Total words     = 11
Total lines     = 2

-----
Process exited after 0.1075 seconds with return value 0
Press any key to continue . . .

```

