Angid 1)

```c
#include<stdio.h>
#include<stdlib.h>
int main(){
    int num_1, num_2;
    FILE *fptr;
     if ((fptr = fopen("1-input.txt", "r")) == NULL){
       printf("Error");
       exit(1);
}
  fscanf(fptr, "%d", &num_1);
  fscanf(fptr, "%d", &num_2);
 if((fptr = fopen("1-output.txt", "w")) == NULL)
{
  printf("Error");
  exit(1);
}
  fprintf(fptr, "%d", num_1 + num_2);
  printf("Amjilttai");
  fclose(fptr);
  return 0;
}
```

```
C:\Users\Idava\OneDrive\Desktop\lab15\angid1.exe
Amjilttai
--------------------------------
Process exited after 0.391 seconds with return value 0
Press any key to continue . . .
```

2)

```c
#include<stdio.h>
#include<stdlib.h>
int *get_array(int n, int value){
    int *p;
    p = (int*) malloc(sizeof(int) * n);
     if (p == NULL){
      printf("Error\n");
      exit(1);
}
    int i;
    for(i = 0; i < n; i++){
    p[i] = value;
}
    return p;
}
    int main(){
    int *a, i, n;
    printf("n = ");
    scanf("%d", &n);
    a = get_array(n, 101);
    for (int i = 0; i < n; ++i){
    printf("%d\n", a[i]);
}
    free(a);
    return 0;
}
```

```
C:\Users\Idava\OneDrive\Desktop\lab15\angid2.exe
n = 4
101
101
101
101

--------------------------------
Process exited after 1.873 seconds with return value 0
Press any key to continue . . .
```

3)

```c
#include<stdio.h>
#include<stdlib.h>
int *find_divisors(int n)
{
    int *p;
    p = (int*) malloc(sizeof(int) * n);
     if (p == NULL){
      printf("Error\n");
      exit(1);
}
    int i, c = 0, arr = 1;
    for (i = 1; i <= n; ++i){
    if (n % i == 0){
    p[arr] = i;
    c++;
    arr++;
    }
}
    p[0] = c;
    return p;
}
  int main()
{
   int *a, i;
   int n;
   printf("n = ");
   scanf("%d", &n);
   a = find_divisors(n);
    for (int i = 1; i <= a[0]; ++i){
     printf("%d\n", a[i]);
}
   free(a);
   return 0;
}
```

```
C:\Users\Idava\OneDrive\Desktop\lab15\angid3.exe
n = 100
1
2
4
5
10
20
25
50
100

--------------------------------
Process exited after 2.084 seconds with return value 0
Press any key to continue . . .
```

4)

```c
#include<stdio.h>
#include<stdlib.h>
int main()
{
   FILE *fptr;
   if ((fptr = fopen("4-input.txt", "r")) == NULL){
   printf("Error");
   exit(1);
}
   int sum, i;
   bool check = false;
   while (!feof(fptr)){
   fscanf(fptr, "%d", &i);
   if (check)
   sum += i;
   check = true;
}
    printf("niilber = : %d", sum);
}
```

```
C:\Users\Idava\OneDrive\Desktop\lab15\angid4.exe
niilber = : 62
--------------------------------
Process exited after 0.4349 seconds with return value 0
Press any key to continue . . .
```

5)

```c
struct Student{
char fname[20], lname[20], id[10];
float gpa;
};
    int main(){
    int n;
    printf("Heden shirheg oyutan burtgeh be:");
    scanf("%d", &n);
    FILE *fptr;
    if ((fptr = fopen("students.txt", "w")) == NULL)
    printf("Error! opening file");
    exit(1);
}
    for (int i = 1; i <= n; i++) {
    Student s;
    printf("%d)\n", i);
    printf("fname: ");
    scanf("%s", s.fname);
    printf("lname: ");
    scanf("%s", s.lname);
    printf("id: ");
    scanf("%s", s.id);
    printf("gpa: ");
    scanf("%f", &s.gpa);
    fprintf(fptr, "%d)\n", i);
    fprintf(fptr, "%s\n", s.fname);
    fprintf(fptr, "%s\n", s.lname);
    fprintf(fptr, "%s\n", s.id);
    fprintf(fptr, "%f\n", s.gpa);
}
    printf("Amjilttai burtgelee");
    fclose(fptr);
}
```

```
C:\Users\ldava\OneDrive\Desktop\lab15\angid5.exe
Heden shirheg oyutan burtgeh be:2
1)
fname: dak
lname: dak
id: 1234
gpa: 4
2)
fname: joe
lname: joe
id: 4321
gpa: 3.9
Amjilttai burtgelee
--------------------------------
Process exited after 18.45 seconds with return value 0
Press any key to continue . . .
```

6)

```c
#include<stdio.h>
#include<stdlib.h>
#include<string.h>
struct Student{
  char fname[20], lname[20], id[10];
  float gpa;
};
    int main(){
    char s[20];
    FILE *fptr;
    if ((fptr = fopen("students.txt", "r")) == NULL ){
    printf("Error! opening file");
    exit(1);
}
    while (!feof(fptr)){
    fscanf(fptr, "%s", s);
    for (int i = 0; i < strlen(s); i++){
    printf("%c", s[i]);
}
    printf("\n");
}
    fclose(fptr);
    return 0;
}
```

```
C:\Users\ldava\OneDrive\Desktop\lab15\angid6.exe
1)
dak
dak
1234
4.000000
2)
joe
joe
4321
3.900000
3.900000

--------------------------------
Process exited after 0.4041 seconds with return value 0
Press any key to continue . . .
```

Gert 1)

gert1.cpp

```
2   #include<stdlib.h>
3   int *get_array_from_file( char fname[]) {
4   FILE *fp;
5   char c;
6   int *p,n,i;
7   n=0;
8   fp=fopen(fname,"r");
9   while((c=fgetc(fp))!= EOF){
10  if(c>=47 && c<=58){
11  n=n+1;
12  }
13  else{
14  continue;
15  } }
16  fclose(fp);
17  fp=fopen(fname,"r");
18  i=1;
19  p= (int*) malloc(n * sizeof(int));
20  p[0]=n;
21  while((c=fgetc(fp))!= EOF){ {
22  if(c>47 && c<58){
23  p[i]=c-48;
24  i=i+1;
25  }
26  }
27  }
28  fclose(fp);
29  return p;
30  }
31  int main(){
32  const char filename[]="integer.txt";
33  int *n,b,i;
34  n=get_array_from_file( "integer.txt");
35  b=n[0];
36  for (i = 0; i <= b; i++)
37  printf ("%d ",n[i]);
38  return 0;
39  }
```

```
C:\Users\Idava\OneDrive\Documents\c hel\gert1.exe
11 1 2 1 3 1 3 1 2 3 1 4
--------------------------------
Process exited after 0.7437 seconds with return value 0
Press any key to continue . . .
```

Gert 2)

```c
#include<stdio.h>
#include<stdlib.h>
#include<string.h>
struct Student{
    char fname[20], lname[20], id[10];
    float gpa;
};
typedef struct Student Student;
   void read(Student a[], int n){
    for(int i=0; i<n; i++){
    printf("fname: ");
     scanf("%s", a[i].fname);
     printf("lname: ");
     scanf("%s", a[i].lname);
     printf("id: ");
     scanf("%s", a[i].id);
     printf("gpa: ");
     scanf("%f", &a[i].gpa);
        }
    }
    void print(Student a[], int n){

    for(int i=0; i<n; i++){

     printf("%s\n", a[i].fname);
     printf("%s\n", a[i].lname);
     printf("%s\n", a[i].id);
     printf("%.1f\n", a[i].gpa);
        }
    }

    void student_write(Student a[], int n, char fname[]){
    FILE *fg;
    fg=fopen("fname.dat", "w");
    if(fg==NULL){
        printf("%s file-iig ongoilgoh bolomjgui", fname);
        exit(1);
    }
     for(int i=0; i<n; i++){
    fprintf(fg, "%s\n", a[i].fname);
    fprintf(fg, "%s\n", a[i].lname);
     fprintf(fg, "%s\n", a[i].id);
     fprintf(fg, "%.1f\n", a[i].gpa);

     }
    }
    int student_read(Student a[], char fname[]){
    FILE *fg;
    fwrite(a, sizeof(struct Student), 20, fg);
    int *s, x=0,i=0;
    fg=fopen("fname.dat", "r");
    if(fg==NULL){
        printf("%s file-iig ongoilgoh bolomjgui", fname);
        exit(1);
    }
  while(!feof(fg)){
    fscanf(fg, "%s\n", a[i].fname);
    fscanf(fg, "%s\n", a[i].lname);
    fscanf(fg, "%s\n", a[i].id);
    fscanf(fg, "%.1f\n", a[i].gpa);
    x++;
    i++;
```

```
C:\Users\ldava\OneDrive\Documents\c hel\gert1.exe
1
fname: Dak
lname: Joe
id: 123
gpa: 4
Dak
Joe
123
4.0
```