1. Develop a C program to determine the month given input in the range 1-12 using switch case statement.

```
#include <stdio.h>
int main()
{
  int m;
  printf("Enter a month number between 1-12 \n");
  scanf("%d",&m);
  switch(m)
  {
     case 1:
     printf("JANUARY");
     break;
     case 2:
     printf("FEBRUARY");
     break;
     case 3:
     printf("MARCH");
     break;
     case 4:
     printf("APRIL");
     break;
     case 5:
     printf("MAY");
     break;
     case 6:
     printf("JUNE");
     break;
     case 7:
     printf("JULY");
     break;
     case 8:
     printf("AUGUST");
     break;
     case 9:
     printf("SEPTEMBER");
     break;
     case 10:
     printf("OCTOBER");
     break;
     case 11:
     printf("NOVEMBER");
     break;
     case 12:
     printf("DECEMBER");
     break;
     default:
     printf("The month number does not exist\n");
```

```
}
```

```
Snehas-MacBook-Pro:helloworld snehasrivastava$ gcc month.c
Snehas-MacBook-Pro:helloworld snehasrivastava$ ./a.out
Enter a month number between 1-12
9
SEPTEMBERSnehas-MacBook-Pro:helloworld snehasrivastava$ ./a.out
Enter a month number between 1-12
20
The month number does not exist
Snehas-MacBook-Pro:helloworld snehasrivastava$
```

2. Develop a C program to create student structure, read two student details (Student roll number, name, section, department, fees and results i.e.,total marks obtained) and print the student details who has scored the highest.

```
#include <stdio.h>
struct student
  char name[50];
  char name1[50];
  char dep[10];
  char dep1[10];
  char sec, sec1;
  int roll,roll1;
  float tr,fees,tr1,fees1,high;
};
struct student s;
int main()
{
  printf("Student 1 details: \n");
  printf("Enter name: ");
  gets(s.name);
  printf("\nEnter roll no.: ");
  scanf("%d",&s.roll);
  printf("\nEnter Section: ");
  scanf("%s",&s.sec);
  printf("\nEnter Department: ");
  scanf("%s",&s.dep);
  printf("\nEnter fees: ");
  scanf("%f",&s.fees);
  printf("\nEnter results: ");
  scanf("%f",&s.tr);
  printf("Student 2 details: \n");
  printf("\nEnter name: ");
  scanf("%s",&s.name1);
  printf("\nEnter roll no: ");
  scanf("%d",&s.roll1);
  printf("\nEnter Section: ");
  scanf("%s",&s.sec1);
  printf("\nEnter department: ");
  scanf("%s",&s.dep1);
  printf("\nEnter fees: ");
  scanf("%f",&s.fees1);
  printf("\nEnter result: ");
  scanf("%f",&s.tr1);
  s.high=(s.tr>s.tr1)?s.tr:s.tr1;
  printf("High: %f",s.high);
  printf("\nStudent details:\n");
  if (s.high==s.tr)
```

```
printf("NAME: %s",s.name);
    printf("\nROLL NO: %d",s.roll);
    printf("\nSECTION: %c",s.sec);
    printf("\nDepartment: %s",s.dep);
    printf("\nFEES: %f",s.fees);
    printf("\nRESULT: %f",s.tr);
}
else
{
    printf("NAME: %s",s.name1);
    printf("\nROLL NO: %d",s.roll1);
    printf("\nSECTION: %c",s.sec1);
    printf("\nDepartment: %s",s.dep1);
    printf("\nFEES: %f",s.fees1);
    printf("\nRESULT: %f",s.tr1);
}
return 0;
}
```

```
Enter name: Sneha
Enter roll no.: 45
Enter Section: B
Enter Department: CSE
Enter fees: 80000
Enter results: 90
Student 2 details:
Enter name: Ritika
```

Enter roll no: 7

Enter Section: A

Enter department: ISE

Enter fees: 90000

Enter result: 83 High: 90.000000 Student details:

NAME: Sneha ROLL NO: 45 SECTION: B

Enter Section: A

Enter department: ISE

Enter fees: 90000

Enter result: 83
High: 90.000000
Student details:
NAME: Sneha
ROLL NO: 45
SECTION: B

Department: CSE FEES: 80000.000000

RESULT: 90.000000Snehas-MacBook-Pro:helloworld snehasrivastava\$ ☐

3. Develop a C program to perform arithmetic operations on two integers using pointers.

```
#include <stdio.h>
int main()
  int first, second, *p, *q, sum, sub, mul, mod, div;
  printf("Enter two integers\n");
 scanf("%d%d", &first, &second);
 p = &first;
 q = \&second;
 sum = *p + *q;
 sub = *p - *q;
 mul = *p * *q;
 mod = *p \% *q;
 div = *p / *q;
  printf("Sum of the numbers = %d\n", sum);
  printf("Substraction of the numbers = %d\n", sub);
  printf("Multiplication of the numbers = %d\n", mul);
 printf("Modulus of the numbers = %d\n", mod);
  printf("Division of the numbers = %d\n", div);
  return 0;
}
```

```
Snehas-MacBook-Pro:helloworld snehasrivastava$ ./a.out
Enter two integers to add
3
5
Sum of the numbers = 8
Snehas-MacBook-Pro:helloworld snehasrivastava$ gcc arithemetic.c
Snehas-MacBook-Pro:helloworld snehasrivastava$ ./a.out
Enter two integers
10 5
Sum of the numbers = 15
Substraction of the numbers = 5
Multiplication of the numbers = 50
Modulus of the numbers = 0
Division of the numbers = 2
Snehas-MacBook-Pro:helloworld snehasrivastava$
```

4. Illustrate pointers in swapping two numbers.

```
#include<stdio.h>
void swap(int *x,int *y);
int main()
{ int x,y;
  printf("please enter the 2 numbers you want to swap \n");
  scanf("%d %d",&x,&y);
     printf("the first and second number in the main program before swapping in the
function using call by reference are %d %d \n ",x,y);
  swap(&x,&y);
  printf("the first and second number in the main program after swapping in the function
using call by reference are %d %d \n",x,y);
  printf("hence proved that if use call by reference then the changes made to actual
parameter will effect the default parameters \n");
void swap(int *x,int *y)
  int t;
  t=*x:
  *x=*y;
  *y=t;
printf("the first and second number number in the function after swapping in the
function using call by reference are %d %d \n",*x,*y);
  }
```

```
Snehas-MacBook-Pro:helloworld snehasrivastava$ gcc swap.c
Snehas-MacBook-Pro:helloworld snehasrivastava$ ./a.out
please enter the 2 numbers you want to swap
786 33
the first and second number in the main program before swapping in the function using call by reference are 786 33
the first and second number number in the functionn after swapping in the function using call by reference are 33 786
the first and second number in the main program after swapping in the function using call by reference are 33 786
hence proved that if use call by reference then the changes made to actual parameter will effect the default parameters
Snehas-MacBook-Pro:helloworld snehasrivastava$
```

5. Demonstrate how to read data from the keyboard, write it to a file called INPUT, again read the same data from the INPUT file and display it on the screen/console.

```
#include<stdio.h>
int main()
{
    FILE *file1;
    char c;
    file1=fopen("Input.txt","w");
    while((c=getchar())!=EOF)
    {
      putc(c,file1);
      }
      fclose(file1);
       file1=fopen("Input.txt","r");
      while((c=getc(file1))!=EOF)
      {
          printf("%c",c);
      }
      fclose(file1);
    }
}
```

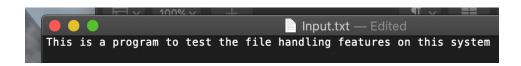
Output

Data Input

This is a program to test the file handling features on this system

Data Output

This is a program to test the file handling features on this system



Snehas-MacBook-Pro:helloworld snehasrivastava\$ gcc inputfile.c Snehas-MacBook-Pro:helloworld snehasrivastava\$./a.out This is a program to test the file handling features on this system