Answers to Assignment No. 4 - Makefile :

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The Main Program: **Central_prog.c**

```
#include <stdio.h>
#include <stdlib.h>
#include <prototypes.h>
int main()
{
      int choice;
      printf("Welcome to scientific Calculator !");
      printf("\n 1)Addition \n 2)Subtraction \n 3)Division \n
               4)Multiplication");
      printf("\nYour Choice?");
      scanf("%d",&choice);

      switch(choice)
      {
            case 1:
                  Add();
            case 2:
                  Subtract();
            case 3:
                  Division();
            case 4:
                  Multiply();
            default:
                  printf("Wrong Input !");
      }

      return 0;
}
```

The Prototype Header File: **Prototypes.h**

```
      void Add(void);
      void Subtract(void);
      void Division(void);
      void Multiply(void);
```

The Function Files:

1) **Add.c**

```
#include <stdio.h>
#include <stdlib.h>
#include <prototypes.h>
void Add(void)
{
      int num1=0;
      int num2=0;
      printf("Enter 1st Number:");
      scanf("%d",num1);
      printf("\nEnter 2nd Number:");
      scanf("%d",num2);
      printf("\nAnswer is %d",num1+num2);
}
```

2) Subtract.c

```
#include <stdio.h>
#include <stdlib.h>
#include <prototypes.h>
void Subtract(void)
{
      int num1=0;
      int num2=0;
      printf("Enter 1st Number:");
      scanf("%d",num1);
      printf("\nEnter 2nd Number:");
      scanf("%d",num2);
      printf("\nAnswer is %d",num1-num2);
}
```

3) Multiply.c

```
#include <stdio.h>
#include <stdlib.h>
#include <prototypes.h>
void Multiply(void)
{
      int num1=0;
      int num2=0;
      printf("Enter 1st Number:");
      scanf("%d",num1);
      printf("\nEnter 2nd Number:");
      scanf("%d",num2);
      printf("\nAnswer is %d",num1*num2);
}
```

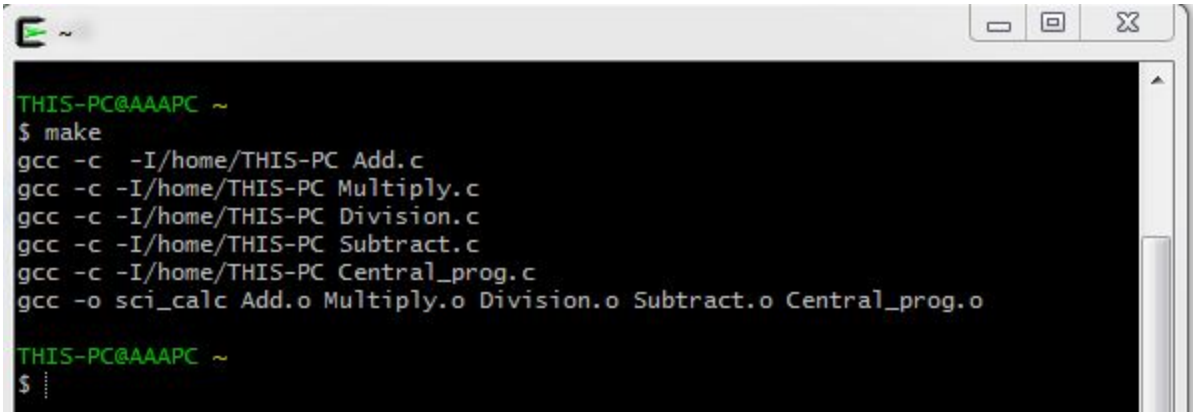
4) Division.c

```
#include <stdio.h>
#include <stdlib.h>
#include <prototypes.h>
void Division(void)
{
      int num1=0;
      int num2=0;
      printf("Enter 1st Number:");
      scanf("%d",num1);
      printf("\nEnter 2nd Number:");
      scanf("%d",num2);
      printf("\nAnswer is %d",num1/num2);
}
```

The Makefile:

```
sci_calc: Add.o Multiply.o Division.o Subtract.o Central_prog.o
	gcc -o sci_calc Add.o Multiply.o Division.o Subtract.o
Central_prog.o
Add.o : Add.c prototypes.h
	gcc -c  -I/home/THIS-PC Add.c
Multiply.o : Multiply.c prototypes.h
	gcc -c -I/home/THIS-PC Multiply.c
Division.o : Division.c prototypes.h
	gcc -c -I/home/THIS-PC Division.c
Subtract.o : Add.c prototypes.h
	gcc -c -I/home/THIS-PC Subtract.c
Central_prog.o : Central_prog.c prototypes.h
	gcc -c -I/home/THIS-PC Central_prog.c
```

Output of "Make":



Sample run of Output file : "sci_calc.exe"