# Example 1

- Write a program that converts a temperature from Celsius to Fahrenheit and vice versa. Write the main function that accepts a conversion and temperature and calls the appropriate function.
  - Celsius = (Fahrenheit-32)/1.8
  - Fahrenheit = 1.8*Celsius+32

# Suggested Answer

```
#include<stdio.h>
float calc_celcius(float);
float calc_fahrenheit(float);
int main()
{
        float temp, new_c, new_f;
        char conversion;
        printf("Enter the temperature");
        scanf("%f", &temp);
        printf("Enter the conversion you wish to make ");
        scanf("%c", &conversion);
        switch(conversion)
        {
                case 'C':
                case 'c':
                        new_c=calc_celcius(temp);
                        printf("The temperature converted to celcius is %f", new_c);
                        break;
        }
```

# Suggested Answer (contd.)

```
                        case ‘F’:
                        case ’f’:
                                    new_f=calc_fahrenheit(temp);
                                    printf(“The temperature converted to Fahren is %f”, new_f);
                                    break;
                        default: printf(“Wrong input”);
                        }
            return 0;
}
float calc_celcius(float f)
{
            float c;
            c = (f-32)/1.8;
            return c;
}
float calc_fahrenheit (float c)
{
            float f;
            f = 1.8 *c+ 32;
            return f;
}
```

# Example 2

- Write a function that receives a positive integer & returns its factorial.
- Write a program that prints out the factorial of numbers 1 .. 20. (Use the function above )

# Suggested Answer

```c
#include <stdio.h>

long factorial(int);

int main()
{
  int number;


  printf("Enter a number to calculate its factorial\n");
  scanf("%d", &number);

  printf("%d! = %ld\n", number, factorial(number));

  return 0;
}
```

# Suggested Answer (contd.)

```
long factorial(int n)
{
  int c;
  long result = 1;

  for (c = 1; c <= n; c++)
    result = result * c;

  return result;
}
```

# Example 3

- Write a function that receives a positive integer & returns 1 if it is prime and 0 otherwise.

- Write a program that prints out all prime numbers 2-100 .

# Suggested Answer

```c
#include<stdio.h>

int check_prime(int);

main()
{
   int n, result;

   printf("Enter an integer to check whether it is prime or not.\n");
   scanf("%d",&n);

   result = check_prime(n);

   if ( result == 1 )
      printf("%d is prime.\n", n);
   else
      printf("%d is not prime.\n", n);

   return 0;
}
```

# Suggested Answer (contd.)

```
int check_prime(int a)
{
   int c;

   for ( c = 2 ; c <= a - 1 ; c++ )
   {
      if ( a%c == 0 )
     return 0;
   }
   if ( c == a )
      return 1;
}
```

# Questions?