


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.
 - $\text{Celsius} = (\text{Fahrenheit} - 32) / 1.8$
 - $\text{Fahrenheit} = 1.8 * \text{Celsius} + 32$



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;
    }
}
```



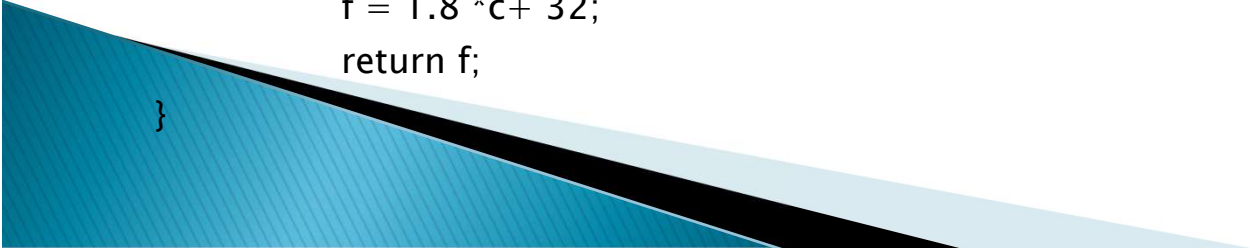
Suggested Answer (contd.)

```
        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

```
#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

```
#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?

