Lab 5

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Parameters and Arguments

➢ Information can be passed to functions as a parameter. Parameters act as variables inside the function.

```
returnType functionName(parameter1, parameter2, parameter3) {
    // code to be executed
}
```

Void Function

```
void myFunction(int age) {
  printf("Hello You are %d years old\n",age);
}

int main() {
    myFunction( 3);

    return 0;
}
```

Output

```
Hello You are 3 years old
```

Int Function

```
int myFunction(int x) {
    return 5 + x;
}

int main() {
  printf("Result is: %d", myFunction(3));
    return 0;
}
```

Output

```
Result is: 8
```

Function Declaration and Definition

➢ **Declaration:** the function's name, return type, and parameters (if any)

➢ **Definition:** the body of the function (code to be executed)

```
void myFunction() { // declaration
  // the body of the function (definition)
}
```

➢ For code optimization, it is recommended to separate the declaration and the definition of the function.

Function Declaration and Definition

```c
// Function declaration
int myFunction(int, int);

// The main method
int main() {
  int result = myFunction(5, 3);  // call the function
  printf("Result is = %d", result);
  return 0;
}

// Function definition
int myFunction(int x, int y) {
  return x + y;
}
```

Output

```
Result is: 8
```

Math Functions

```c
#include <math.h>

int main() {
    printf("%f\n", sqrt(16));
    printf("%f\n", ceil(1.4));
    printf("%f\n", floor(1.4));
    printf("%f", pow(4, 3));
    return 0;
}
```

```
4.000000
2.000000
1.000000
64.000000
```

Try

➢ Write a function to calculate the sum of n even integers starting from a given even integer.

➢ Write a function to find the absolute value the integer parameter .

➢ Write a function to takes a real number as its argument and return the sum of digits of this number.

➢ Write a function isdigit which should return the digit if the given number is a digit and zero if not.

```c
#include <stdio.h>
#include <stdlib.h>

int main()
{
        int num;
        int sum=0;

        scanf("%d",&num);

        while(num > 0)
        {
                int mod = num % 10;
                printf("%d\n",mod);
                num = num / 10;
                sum+=mod ;
        }
    printf("%d\n",sum);
        return 0;
}
```

```c
#include <stdio.h>
#include <stdlib.h>

int main()
{
    char c;
    scanf("%c",&c);
    c-='0';
    if(c>=0 && c<=9)
    {

    printf("digit\n");
    }
    else{
        printf("not digit\n");
    }

    return 0;
}
```