

## Lesson 3 Lab

Task 1: define a **function** which takes in an integer, and then prints the triple of its value (Eg, if input is 2, prints 6)

```
#include <stdio.h>

void NumberPrint(int number)
{
    printf("%d", number * 3);
    return;
}
```

Task 2: define a **function** which takes in two integers, and returns the smaller one

```
int Compare(int firstNumber, int secondNumber)
{
    if (firstNumber < secondNumber) return firstNumber;
    return secondNumber;
}
```

Task 3: define a **function** which takes in a float, prints it, and then return the absolute value of it.f

```
#include <math.h>

float printAndAbs(float number)
{
    printf("%f", number);
    return fabs(number);
}
```

Task 4: define a **function** which takes in a char, and prints the input char 100 times

```
#include <stdio.h>

void printHundredTimes(char character)
{
    for (int x = 1; x <= 100; x++)
    {
```

```

        printf("%c\n", character);
    }
}

```

Task 5: define a **function** which takes in two doubles, and prints the non-negative difference (Eg, the bigger one – the smaller one) [Hint: if the two inputs are the same, prints 0]

```

#include <stdio.h>

void printDifference(double first, double second)
{
    if (first > second) printf("%f", first - second);
    else if (first == second) printf("0");
    else printf("%f", second - first);
}

```

Task 6: define a **function** which takes in two integers, and then prints the result of the first number got divided by the second one as a double (Eg, if input 1 4, should print 0.25)

```

#include <stdio.h>

void divider(int first, int second)
{
    printf("%f", (double)first / second);
}

```

Task 7: define a **program** which reads in a double, and then prints it out as three times: (1) As an int (2) as a double (3) as a float

```

#include <stdio.h>

void printer(double number)
{

```

```
    printf("%d %f %f", (int)number, number, (float)number);
}

int main()
{
    double number;
    scanf("%lf", &number);
    printer(number);
    return 0;
}
```

**You are required to use function from math library to answer Task 8 ~ 10:**

Task 8: define a [program](#) which reads in two doubles, and then prints out the one which has bigger absolute value

```
#include <stdio.h>
#include <math.h>

void compareAndPrint(double first, double second)
{
    if (fabs(first) >= fabs(second)) printf("%f", first);
    else printf("%f", second);
}

int main()
{
    double first;
    double second;
    scanf("%lf %lf", &first, &second);
    compareAndPrint(first, second);
    return 0;
}
```

Task 9: define a [program](#) which reads in one positive float (called x), and then prints the value of  $\sin(2x)$  [Hint:  $\sin(2x) = 2 \sin(x) \cos(x)$ ]

```
#include <stdio.h>
#include <math.h>

void sinAndPrint(float x)
{
    printf("%f", 2 * sin(x) * cos(x));
}

int main()
{
    float x;
    scanf("%f", &x);
    sinAndPrint(x);
    return 0;
}
```

Task 10: define a [program](#) which reads in two positive integers, and then prints their log (base 10) of their sum [Assumption: the user will type in two positive integers]

```
#include <stdio.h>
#include <math.h>

void logAndPrint(int first, int second)
{
    printf("%f", log10(first + second));
}

int main()
{
    int first;
    int second;
    scanf("%d %d", &first, &second);
    logAndPrint(first, second);
    return 0;
}
```

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