CPE100 Computer Programming for Engineers

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Objective

This exercise will allow you to practice coding C language, one of the most important foundation computer languages, in Variable and Data type topics. This exercise focus on gaining basic knowledge of how variable in C works for further coding in a later class.Output Square root of the input number

Instructions

1) Write C program to "Output integer number from float input number"

2) Write C program to "Output the height of a rock, where it drop to the ground by specifying a time it hit the ground"

*** Assume g = 10 and initial velocity = 0

*** Hint : v= u+at , s= (u+v)/2 * t

3) Write C program to "Output cube number from input number"

4) Write C program to "Output alphabet from number input"

*** Assume program only take number from 65 to 90

5) Write C program to "Output product number (only 2 decimal digit) from 2 input number"

*** Hint : Use %.xlf while x stand for number of digit of decimal number

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6) Write C program to "Output upper case alphabet from lower alphabet input"

*** Hint: Check ASCII table

7) Write C program to Output Quotient and Remainder from 2 input number"

*** Hint : use % as modulo, modulo stands for getting remainder result from divided answer.

*** More information about modulo : https://www.geeksforgeeks.org/modulo-operator-in-c-cpp-with-examples/

1

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

int main(){
    float in;
    printf("enter your number: ");
    scanf("%f",&in);
    printf("your number in integer is: %d", (int)in);
}        Besutodesu [4 minutes ago] • feat: lab3 cpe100 first year
```

```
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PS C:\Users\ADMINSTRATOR\Desktop\KMUTT\C\project\KMUTT> cd "c:\Users\ADMIN
if ($?) { .\lab3_1 }
enter your number: 34.45
your number in integer is: 34
```

3

```c
#include<stdio.h>

int main(){
    float number;
    printf("Enter the number : ");
    scanf("%f",&number);
    printf("the cube of number is : %f",number*number*number);
    return 0;    Besutodesu [8 minutes ago] • feat: lab3 cpe100 first year
}
```

```
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PS C:\Users\ADMINSTRATOR\Desktop\KMUTT\C\project\KMUTT> cd "c:\Users\ADM
if ($?) { .\lab3_3 }
Enter the number : 3
the cube of number is : 27.000000
PS C:\Users\ADMINSTRATOR\Desktop\KMUTT\C\project\KMUTT\CPE100\LAB3>
```

2

```c
#include<stdio.h>

int main(){
    double height, time;
    double gravity = 10;
    printf("enter time rock used to drop: ");
    scanf("%lf", &time);
    // from distance  = intial velocity * time + 0.5* accelarate * time sq
    // and we canceled the intial velocity * time because of the initial v
    height = 0.5*gravity*time*time;
    printf("the height of the rock is: %lf", height);
    return 0;    Besutodesu [7 minutes ago] • feat: lab3 cpe100 first year
}
```

```
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PS C:\Users\ADMINSTRATOR\Desktop\KMUTT\C\project\KMUTT> cd "c
if ($?) { .\lab3_2 }
enter time rock used to drop: 4
the height of the rock is: 80.000000
PS C:\Users\ADMINSTRATOR\Desktop\KMUTT\C\project\KMUTT\CPE100
```

4

```c
#include<stdio.h>

int main(){
    int number;
    printf("Enter number: ");
    scanf("%d",&number);
    if (number >= 65 && number <=90){
        printf("the alphabet is %c",number);
    } else {
        printf("the number is not valid");
    }
}        Besutodesu [9 minutes ago] • feat: lab3 cpe100 first year
```

```
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PS C:\Users\ADMINSTRATOR\Desktop\KMUTT\C\project\KMUTT> cd "c:\Users\ADMINSTRATO
if ($?) { .\lab3_4 }
Enter number: 76
the alphabet is L
```

Tabs: main3.c | lab3_1.c | lab3_2.c | lab3_3.c | lab3_4.c

CPE100 > LAB3 > lab3_5.c > main()

```c
#include<stdio.h>

int main(){
    float num1, num2;
    printf("input number1: ");
    scanf("%f",&num1);
    printf("input number2: ");
    scanf("%f",&num2);
    printf("product is : %.2f",num1*num2);
}
```

PROBLEMS   OUTPUT   DEBUG CONSOLE   **TERMINAL**   JUPYTER: VARIABLES   GITLENS   COMME

```
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PS C:\Users\ADMINSTRATOR\Desktop\KMUTT\C\project\KMUTT> cd "c:\Users\ADMINSTRA
if ($?) { .\lab3_5 }
input number1: 3.434454
input number2: 45.56
product is : 156.47
```

Tabs: main3.c | lab3_1.c | lab3_2.c | C

CPE100 > LAB3 > lab3_6.c > main()

```c
#include<stdio.h>
int main(){
    char alphabet;
    printf("input the alphabet :");
    scanf("%c",&alphabet);
    printf("the upper case alphabet : %c",alphabet-32);
}
```

PROBLEMS   OUTPUT   DEBUG CONSOLE   **TERMINAL**   JUPYTER: VA

```
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PS C:\Users\ADMINSTRATOR\Desktop\KMUTT\C\project\KMUTT
if ($?) { .\lab3_6 }
input the alphabet :g
the upper case alphabet : G
```

CPE100 > LAB3 > lab3_7.c > main()

```c
#include<stdio.h>

int main(){
    int num1, num2;
    printf("input number1: ");
    scanf("%d",&num1);
    printf("input number2: ");
    scanf("%d",&num2);
    printf("Quotient: %d\n", num1/num2);
    printf("Remainder: %d", num1%num2);
}
```

PROBLEMS   OUTPUT   DEBUG CONSOLE   **TERMINAL**   JUPYTER: VARIABLES   GITLENS   C

```
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PS C:\Users\ADMINSTRATOR\Desktop\KMUTT\C\project\KMUTT> cd "c:\Users\ADMIN
if ($?) { .\lab3_7 }
input number1: 34
input number2: 5
Quotient: 6
Remainder: 4
```