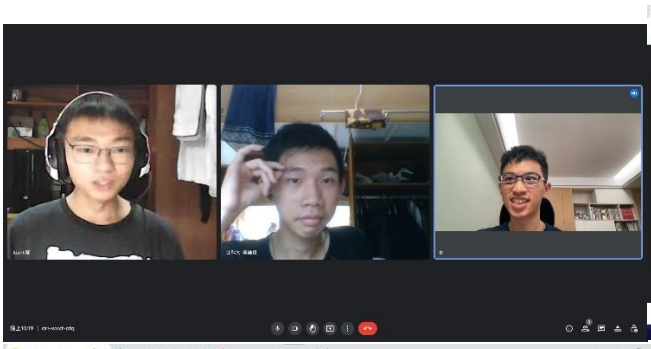
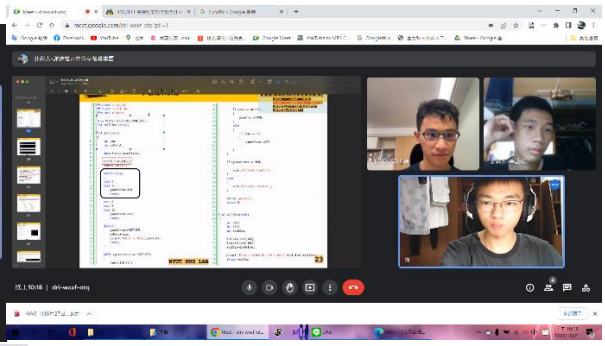
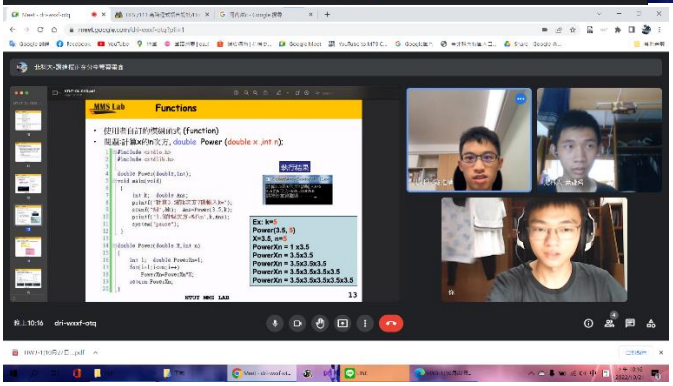
Discussion date: 10/21 9:33-10:19







P12

main.c

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

int square(int y);

int main ()
{
    int x;

    for (x = 1; x <= 10; x++)
    {
        printf("%d ", square(x));
    }
    printf("\n");
    system ("pause");
    return 0;
}

int square(int y)
{
    return y*y;
}
```

P13

main.c

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

double power(double, int);

int main ()
{
    int k;
    double num;

    printf("Calculate 3.5 the power of k\nk = ");
    scanf("%d", &k);

    num = power(3.5, k);
    printf("3.5 the power of %d is :%f", k, num);
    system ("pause");
    return 0;
}

double power(double x, int n)
{
    int i;
    double powerxn = 1;

    for (i = 1; i <= n; i++)
        powerxn = powerxn * x;
    return powerxn;
}
```

P15

main.c

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

int maximum(int x, int y, int z);

int main ()
{
    int num1, num2, num3;

    printf("Enter 3 integers: ");
    scanf("%d %d %d", &num1, &num2, &num3);

    printf("Maximum is: %d\n", maximum(num1, num2, num3));
    system ("pause");
    return 0;
}

int maximum(int x, int y, int z)
{
    int max = x;

    if (y > max)
        max = y;

    if (z > max)
        max = z;

    return max;
}
```

P16

main.c

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

int main ()
{
    int x;

    for (x = 1; x <= 10; x++)
    {
        printf("%.2f ", sqrt(x));
    }
    printf("\n");
    system ("pause");
    return 0;
}
```

P18

main.c

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

int main ()
{
    char string1[60]="Hello!";
    char string2[60];

    int length;

    strcpy(string2, string1);
    printf("string2 now contains = %s\n", string2);

    length = strlen(string2);
    printf("The amount of letters within string2 is = %d\n", length);

    system("pause");
    return 0;
}
```

P20

*main.c

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

int main ()
{
    int i;
    for (i = 1; i <= 20; i++)
    {
        printf("%5d", 1+(rand()%6));
        if (i % 5 == 0)
            printf("\n");
    }
    system("pause");
    return 0;
}
```

P21

main.c

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

int main ()
{
    int i;
    unsigned seed;

    printf("Enter seed: ");
    scanf("%u", &seed);

    srand(seed);

    for (i = 1; i <= 10; i++)
    {
        printf("%5d", 1+(rand()%6));
        if (i % 5 == 0)
            printf("\n");
    }
    system("pause");
    return 0;
}
```

P23

main.c

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

enum Status {CONTINUE, WON, LOST};
int roll (void);

int main ()
{
    int sum;
    int point;

    enum Status stat;

    srand(time(NULL));
    sum = roll();

    switch (sum)
    {
        case 7:
        case 11:
            stat = WON;
            break;

        case 2:
        case 3:
        case 12:
            stat = LOST;
            break;

        default:
            stat = CONTINUE;
            point=sum;
            printf("Your point is %d\n", point);
            break;
    }
    while (stat == CONTINUE)
    {
        sum = roll();

        if (sum == point)
            stat = WON;
        else
        {
            if (sum == 7)
                stat = LOST;
        }
    }

    if (stat == WON)
    {
        printf("You win!\n");
    }
    else
    {
        printf("You lose!\n");
    }

    system("pause");
    return 0;
}

int roll (void)
{
    int d1, d2, dsum;

    d1 = 1+(rand()%6);
    d2 = 1+(rand()%6);
    dsum = d1 + d2;

    printf("You rolled %d + %d = %d\n", d1, d2, dsum);
    return dsum;
}
```

P27

main.c

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

long factorial(long num);

int main ()
{
    int i;
    for (i = 1; i <= 10; i++)
        printf("%2d! = %ld\n", i, factorial(i));
    system("pause");
    return 0;
}

long factorial (long num)
{
    if (num <= 1)
        return 1;
    else
        return (num * factorial(num-1));
}
```

Conclusion:

From doing this homework, I learnt a lot about functions. To create a function, you can add a data value with the format [dataValue functionName (dataValue)]. To use the function, you only need to add the function as a variable, Ex: functionName(dataValue) . There are also premade functions by adding an #include function, such as #include <math.h>, #include <string.h>, and #include <time.h>.

Code : https://github.com/AldrichWijaya/Homework