Lesson 2 Lab

Task 1: To make a program which reads in an integer from user and then print "Bonjour" that many times. (Eg, if reads in 4, print "Bonjour" 4 times), using one <mark>while loop</mark>

```c
#include <stdio.h>

int main() {
    int input;
    int n = 1;
    scanf("%d", &input);
    while (n <= input)
    {
        printf("Bonjour\n");
        n++;
    }
    return 0;
}
```

Task 2: To make a program which reads in an integer from user, and then print all positive odd numbers up to the user's input(Eg, if reads in 6, print 1 3 5), using one <mark>for loop</mark>

```c
#include <stdio.h>

int main() {
    int input;
    int n = 1;
    scanf("%d", &input);

    for (int n = 1; n <= input; n++)
    {
        if ((n % 2) == 1)
        {
            printf("%d\n", n);
        }
    }
    return 0;
```

```
}
```

Task 3: To make a program which reads in an integer from user, and then print all numbers between 1 and the read in value (exclusive) (Eg, if reads in 3, print 1 2), using one <mark>for loop</mark>

```c
#include <stdio.h>

int main() {
   int input;
   int n = 1;
   scanf("%d", &input);

   for (int n = 1; n < input; n++)
   {
      printf("%d\n", n);
   }
   return 0;
}
```

Task 4: To make a program which keep reading in integers from user, and then print the running sum, until the running sum is bigger than 100 (Eg, if reads in 5, print 5; after that, reads in 10, print 15, stop reading only if the sum is over 100), using one do-while loop

```c
#include <stdio.h>

int main() {
    int input;
    int n = 0;
    do
    {
        scanf("%d", &input);
        printf("%d\n", n + input);
        n = n + input;
    }
    while (n <= 100);
    return 0;
}
```

Task 5: To make a program which keep reading in integers from user, and then print double the value, until user put in a non-positive integer (Eg, if reads in 5, print 10; stop reading if got 0 or negative integer), using one do-while loop

```c
#include <stdio.h>

int main() {
    int input;
    do
    {
        scanf("%d", &input);
        printf("%d\n", 2 * input);
    }
    while (input > 0);
    return 0;
}
```

Task 6: make a program prints out numbers between 1 and 70: which are multiples of 3, or multiples of 5, but **NOT** multiple of 15, using only ONE if-statement

```c
#include <stdio.h>

int main() {
    int n = 1;
    while (n <= 70)
    {
        if ((n % 15) == 0);
        else if (((n % 3) == 0) || ((n % 5) == 0))
        {
            printf("%d\n", n);
        }
        n++;
    }
    return 0;
}}
```

Task 7: make a program reads in one integer, then print out "even number", "positive odd number" or "negative odd number" accordingly, using one switch statement

```c
// Online C compiler to run C program online
#include <stdio.h>

int main() {
    int number;
    int result;
    scanf("%d", &number);
    if (number % 2 == 0)
    {
        result = 0;
    }
    else if ((number % 2 != 0) && (number > 0))
    {
        result = 1;
    }
    else if ((number % 2 != 0) && (number < 0))
    {
        result = 2;
    }
    switch (result) {
        case 0:
            printf("even number\n");
            break;
        case 1:
            printf("positive odd number\n");
            break;
        case 2:
            printf("negative odd number\n");
            break;
        default:
            printf("unkown\n");
            break;
    }

    return 0;
}
```

Task 8: make a program reads in one char, then print out the capital letter of it if the input char is a vowel, otherwise print 'X', using one switch statement

```c
// Online C compiler to run C program online
#include <stdio.h>

int main() {
    char input;
    int result;
    scanf("%c", &input);
    if (input == 'a')
    {
        result = 0;
    }
    else if (input == 'e')
    {
        result = 1;
    }
    else if (input == 'i')
    {
        result = 2;
    }
    else if (input == 'o')
    {
        result = 3;
    }
    else if (input == 'u')
    {
        result = 4;
    }
    else if (input == 'y')
    {
        result = 5;
    }


    switch (result) {
        case 0:
```

```
                printf("A");
                break;
            case 1:
                printf("E");
                break;
            case 2:
                printf("I");
                break;
            case 3:
                printf("O");
                break;
            case 4:
                printf("U");
                break;
            case 5:
                printf("Y");
                break;
            default:
                printf("X");
                break;
        }

    return 0;
}
```

Task 9: make a program reads in an integer, then print out all positive even numbers smaller than this user input value, using a break statement to stop printing when the even value is bigger than 15

```
// Online C compiler to run C program online
#include <stdio.h>

int main() {
    int input;
    int result;
    scanf("%d", &input);

    for (int x = 2; x < input; x = x + 2) {
        if (x > 15) {
```

```
            break;
        }
        printf("%d\n", x);
    }

    return 0;
}
```

Task 10: make a program reads in one integer, then print out all positive even numbers smaller than this user input value, using a continue statement to skip those numbers which are multiples of 6

```
// Online C compiler to run C program online
#include <stdio.h>

int main() {
    int input;
    int result;
    scanf("%d", &input);

    for (int x = 2; x < input; x = x + 2) {
        if ((x % 6) == 0) {
            continue;
        }
        printf("%d\n", x);
    }

    return 0;
}
```