CT2530 POSIX Operating Systems

Lab 1: I/O, Types, Arithmetic, Decision making and Loops

1.

```c
#include <stdio.h>

int main() {
    printf("Hello world");

    return 0;
}
```

```
Output

/tmp/0CyojYYMN4.o
Hello world
```

2.

main.c Run Output

```c
#include<stdio.h>
int main()
{
char c;
int a;
float b;
printf("Enter a character: ");
scanf("%c",&c);
printf("Enter an integer: ");
scanf("%d",&a);
printf("Enter a real number: ");
scanf("%f",&b);
printf("\n%c is a character\n%d is an
    integer\n%.4f is a real number",c,a,b);
return 0;
}
```

```
/tmp/0CyojYYMN4.o
Enter a character: a
Enter an integer: 7
Enter a real number: 3.1415
a is a character
7 is an integer
3.1415 is a real number
```

3.

main.c Run Output

```c
#include <stdio.h>
int main() {
    int i, sum = 0;
    i = 1;
    while (i <= 15) {
        sum += i;
        ++i;
    }
    printf("Sum = %d", sum);
    return 0;
}
```

```
/tmp/0CyojYYMN4.o
Sum = 120
```

4.

main.c

Run

```c
#include <stdio.h>
int main() {
    int sum, difference, product, quotient,
        remainder, a, b;
    printf("Enter a number: ");
    scanf("%d", &a);
    printf("Enter another number: ");
    scanf("%d", &b);

    sum = a + b;
    difference = a - b;
    product = a * b;
    quotient = a / b;
    remainder = a % b;

    printf("Sum = %d\n", sum);
    printf("Difference = %d\n", difference);
    printf("Product = %d\n", product);
    printf("Quotient = %d\n", quotient);
    printf("Remainder = %d", remainder);
    return 0;
}
```

Output

```
/tmp/0CyojYYMN4.o
Enter a number: 100
Enter another number: 10
Sum = 110
Difference = 90
Product = 1000
Quotient = 10
Remainder = 0
```

5.

main.c

Run

```c
#include <stdio.h>
int main(void) {
    int num;
   do{
        printf("Enter your numeric Grade
            (between 0 to 100)\n");
        scanf("%d",&num);
   }while(num > 100 || num < 0);

    if(num >= 85)
    {
        printf("\nA");
    }
    else if(num >= 65)
    {
        printf("\nB");
    }
    else if(num >= 55)
    {
        printf("\nC");
    }
    else if(num >= 50)
    {
        printf("\nD");
    }
    else
    {
        printf("\nF");
    }
    return 0;
}
```

Output

Clear

```
/tmp/0CyojYYMN4.o
Enter your numeric Grade(between 0 to 100)
50
D
```

6.

main.c

Run

Output

```c
#include<stdio.h>
int main()
{
    int number,i,even=0,odd=0;
    printf("Enter the value of n: ");
    scanf("%d",&number);
    for(i=1;i<=number;i++)
    {
        if(i%2==0)
        {
            even=even-i;
        }
        else
        {
            odd=odd+i;
        }
    }
    printf("Output is: %d",even+odd);

}
```

```
/tmp/0CyojYYMN4.o
Enter the value of n: 5
Output is: 3
```

7.

main.c

Run

Output

```c
#include<stdio.h>
int main() {
    int n;

    printf("Enter the value of n: ");
    scanf("%d", &n);

    int sum = 0, i = 1;

    while (i <= n) {
        if (n % i == 0)
            sum += i;
        i++;
    }

    if (sum == 2 * n)
        printf("%d is Perfect", n);
    else
        printf("%d is not Perfect", n);

    return 0;
}
```

```
/tmp/0CyojYYMN4.o
Enter the value of n: 6
6 is Perfect
```