**Week 2 C Programming assignment**

**-Aron Gurung**

1.

#include <stdio.h>

int main() {

    int num;

    printf("Enter an integer: ");

    scanf("%d", &num);

    if (num > 0)

        printf("Positive\n");

    else if (num < 0)

        printf("Negative\n");

    else

        printf("Zero\n");

    return 0;

}

2.

#include <stdio.h>

int main(void) {

    int age;

    printf("Enter your age: ");

    scanf("%d", &age);

    if (age >= 18)

        printf("Eligible to vote.\n");

    else

        printf("Not eligible to vote.\n");

    return 0;

}

3.

#include <stdio.h>

int main(void) {

    int num;

    printf("Enter a number: ");

    scanf("%d", &num);

    if (num < 0)

        num = -num;

    printf("Absolute value: %d\n", num);

    return 0;

}

4.

#include <stdio.h>

int main(void) {

    for (int i = 2; i <= 100; i += 2)

        printf("%d ", i);

    printf("\n");

    return 0;

}

5.

#include <stdio.h>

int main(void) {

    int n;

    long long fact = 1;

    int i = 1;

    printf("Enter a positive integer: ");

    scanf("%d", &n);

    while (i <= n) {

        fact \*= i;

        i++;

    }

    printf("Factorial: %lld\n", fact);

    return 0;

}

6.

#include <stdio.h>

int main(void) {

    int n, i = 1;

    printf("Enter a number: ");

    scanf("%d", &n);

    do {

        printf("%d x %d = %d\n", n, i, n \* i);

        i++;

    } while (i <= 10);

    return 0;

}

7.

#include <stdio.h>

int main(void) {

    for (int i = 1; i <= 5; i++) {

        for (int j = 1; j <= i; j++)

            printf("\*");

        printf("\n");

    }

    for (int i = 4; i >= 1; i--) {

        for (int j = 1; j <= i; j++)

            printf("\*");

        printf("\n");

    }

    return 0;

}

8.

#include <stdio.h>

int main(void) {

    for (int i = 1; i <= 5; i++) {

        for (int j = 1; j <= i; j++)

            printf("\*");

        printf("\n");

    }

    return 0;

}

9.

#include <stdio.h>

int main(void) {

    for (int i = 5; i >= 1; i--) {

        for (int j = 1; j <= i; j++)

            printf("\*");

        printf("\n");

    }

    return 0;

}

10.

#include <stdio.h>

int main(void) {

    int rows = 3;

    for (int i = 1; i <= rows; i++) {

        for (int j = 1; j <= rows - i; j++)

            printf(" ");

        for (int k = 1; k <= 2\*i - 1; k++)

            printf("\*");

        printf("\n");

    }

    return 0;

}

11.

#include <stdio.h>

int main(void) {

    int rows = 3;

    for (int i = rows; i >= 1; i--) {

        for (int j = 1; j <= rows - i; j++)

            printf(" ");

        for (int k = 1; k <= 2\*i - 1; k++)

            printf("\*");

        printf("\n");

    }

    return 0;

}

12.

#include <stdio.h>

int main(void) {

    for (int i = 1; i <= 100; i++)

        printf("%d ", i);

    printf("\n");

    return 0;

}

13.

#include <stdio.h>

int main(void) {

    int i = 2, sum = 0;

    while (i <= 50) {

        sum += i;

        i += 2;

    }

    printf("Sum = %d\n", sum);

    return 0;

}

14.

#include <stdio.h>

int main(void) {

    int n;

    printf("Enter a positive integer: ");

    scanf("%d", &n);

    printf("Factors: ");

    for (int i = 1; i <= n; i++) {

        if (n % i == 0)

            printf("%d ", i);

    }

    printf("\n");

    return 0;

}

15.

#include <stdio.h>

int main(void) {

    int n, i = 2, prime = 1;

    printf("Enter a positive integer: ");

    scanf("%d", &n);

    if (n <= 1)

        prime = 0;

    else {

        while (i \* i <= n) {

            if (n % i == 0) {

                prime = 0;

                break;

            }

            i++;

        }

    }

    if (prime)

        printf("Prime\n");

    else

        printf("Not prime\n");

    return 0;

}

16.

#include <stdio.h>

int main(void) {

    int n, i = 1;

    long long fact = 1;

    printf("Enter a positive integer: ");

    scanf("%d", &n);

    if (n == 0) {

        printf("Factorial: 1\n");

        return 0;

    }

    do {

        fact \*= i;

        i++;

    } while (i <= n);

    printf("Factorial: %lld\n", fact);

    return 0;

}

17.

#include <stdio.h>

int main(void) {

    int n;

    printf("Enter a positive integer: ");

    scanf("%d", &n);

    for (int i = n; i >= 1; i--)

        printf("%d ", i);

    printf("\n");

    return 0;

}

18.

#include <stdio.h>

int main(void) {

    int n, i = 1;

    printf("Enter a number: ");

    scanf("%d", &n);

    while (i <= 10) {

        printf("%d x %d = %d\n", n, i, n \* i);

        i++;

    }

    return 0;

}

19.

#include <stdio.h>

int main(void) {

    int n;

    printf("Enter size: ");

    scanf("%d", &n);

    for (int i = 1; i <= n; i++) {

        for (int j = 1; j <= n; j++)

            printf("\* ");

        printf("\n");

    }

    return 0;

}

20.

#include <stdio.h>

int main(void) {

    int day;

    printf("Enter a number (1-7): ");

    scanf("%d", &day);

    switch (day) {

        case 1: printf("Sunday\n"); break;

        case 2: printf("Monday\n"); break;

        case 3: printf("Tuesday\n"); break;

        case 4: printf("Wednesday\n"); break;

        case 5: printf("Thursday\n"); break;

        case 6: printf("Friday\n"); break;

        case 7: printf("Saturday\n"); break;

        default: printf("Invalid input\n");

    }

    return 0;

}