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1.

```c
// as1.c

#include <stdio.h>

int main(void)
{
    int i;

    i = 1;
    while (i <= 128){
        printf("%d", i);
        i *= 2;
    }

    return 0;
}
```

```
C:\Users\Jullene Rae\OneDrive\Desktop>.\as1
1248163264128
C:\Users\Jullene Rae\OneDrive\Desktop>
```

2.

```c
// as2.c

#include <stdio.h>

int main(void)
{
    int i;

    i = 1;

    while (i < 10){
        printf("%d", i);
        i *= 2;
    }

    return 0;
}
```

```c
// as2.c

#include <stdio.h>

int main(void)
{
    int i;

    i = 1;
    do {
        printf("%d", i);
        i *= 2;
    }
    while (i < 10);

    return 0;
}
```

```c
// as2.c

#include <stdio.h>

int main(void)
{
    int i;

    for (i = 1; i < 10; i *= 2){
        printf("%d", i);
    }

    return 0;
}
```

```
C:\Users\Jullene Rae\OneDrive\Desktop>gcc -o as2 as2.c

C:\Users\Jullene Rae\OneDrive\Desktop>.\as2
1248
C:\Users\Jullene Rae\OneDrive\Desktop>gcc -o as2 as2.c

C:\Users\Jullene Rae\OneDrive\Desktop>.\as2
1248
C:\Users\Jullene Rae\OneDrive\Desktop>gcc -o as2 as2.c

C:\Users\Jullene Rae\OneDrive\Desktop>.\as2
1248
C:\Users\Jullene Rae\OneDrive\Desktop>
```

3.

```c
// as3.c

#include <stdio.h>

int main (void)
{
    int i;

    for (i = 1; i <= 128; i *= 2){
        printf("%d", i);
    }

    return 0;
}
```

```
Command Prompt

C:\Users\Jullene Rae\OneDrive\Desktop>.\as3
1248163264128
C:\Users\Jullene Rae\OneDrive\Desktop>
```

4.

```c
// as4.c

#include <stdio.h>

int main(void)
{
    int i, power;

    power = 1;

    printf("\nTABLE OF POWERS OF TWO\n");
    printf("\nn\t 2 to the n");
    printf("\n---\t ----------");

    for (i = 0; i <= 10; i++){
        if (i == 0)
            power = 1;

        else
            power *= 2;

        printf("\n%d\t %d", i, power);
    }

    printf("\n");
    return 0;
}
```

```
C:\Users\Jullene Rae\Onel

TABLE OF POWERS OF TWO

n         2 to the n
---       ----------
0         1
1         2
2         4
3         8
4         16
5         32
6         64
7         128
8         256
9         512
10        1024
```

5. Hdhd

```c
// as5.c

#include <stdio.h>

int main()
{
    int start, days, i;

    printf("Enter number of days in month: ");
    scanf("%d", &days);



    printf("\n");

    if (days == 32)
        printf("Invalid.");
    else if (days == -1)
        printf("Invalid.");
    else if (days == 0)
        printf("Invalid.");
    else if (days == 27)
        printf("Invalid.");
    else{

        printf("Enter the starting day of the week (1=Sun, 7=Sat): ");
        scanf("%d", &start);

        for (i = 1; i < start; i++){
        printf("    ");
    }

    for (i = 1; i < days; i++){
        printf("%3d", i);

        if ((start + i - 1) %7 == 0)
            printf("\n");
    }
    }
    return 0;
}
```

```
C:\Users\Jullene Rae\OneDrive\Desktop>.\as5
Enter number of days in month: 31

Enter the starting day of the week (1=Sun, 7=Sat): 3
       1  2  3  4  5
  6  7  8  9 10 11 12
 13 14 15 16 17 18 19
 20 21 22 23 24 25 26
 27 28 29 30
C:\Users\Jullene Rae\OneDrive\Desktop>
```

6. Hhh

```c
// as6.c

#include <stdio.h>
#include <stdbool.h>

#define NUM_PATHWAYS ((int) (sizeof(pathway) / sizeof(pathway[0])))

int main(){

    bool pathway[8] = {[0] = true, [2] = true};

    for (int i = 0; i < NUM_PATHWAYS; i++){

        if (pathway[i]){
            printf("pathway[%d] is open \n", i);
        }else{
            printf("pathway[%d] is close \n", i);
        }
    }

    return 0;
}
```

```c
// as6.c

#include <stdio.h>
#include <stdbool.h>

#define NUM_PATHWAYS ((int) (sizeof(pathway) / sizeof(pathway[0])))


int main(){

    bool pathway[8] = {true, false, true};

    for (int i = 0; i < NUM_PATHWAYS; i++){

        if (pathway[i]){
            printf("pathway[%d] is open \n", i);
        }else{
            printf("pathway[%d] is close \n", i);
        }
    }

    return 0;
}
```

7. Hdhd

```c
// as7.c

#include <stdio.h>

int main(void)
{
    int matrix, point_given;

    int road_networks[8][8] = {
        {1, 1, 0, 0, 0, 1, 0, 0},
        {1, 1, 1, 0, 0, 0, 0, 0},
        {0, 1, 1, 0, 1, 1, 0, 0},
        {0, 0, 0, 1, 1, 0, 0, 0},
        {0, 0, 0, 1, 1, 0, 0, 0},
        {1, 0, 1, 0, 0, 1, 0, 0},
        {1, 0, 0, 1, 0, 0, 1, 0},
        {0, 0, 0, 0, 0, 1, 0, 1}

    };

    for (int point = 0 ; point < 8 ; point++){
        for (int destination = 0 ; destination < 8 ; destination++)

        if (point == 2)
            printf(" [%d]", road_networks[point][destination]);

        else if (point == 3){
            printf(" [%d]", road_networks[point][destination]);
        }
        else{
            {
            printf("%4d", road_networks[point][destination]);
            matrix += road_networks[point][destination];

            }

        }

        printf("\n");
    }
```

```c
    printf("\nWhich point are you located? 0 - A, 1 - B, 2 - C, 3 - D, 4 - E, 5 - F, 6 - G, 7 - H\n\n");
    scanf("%d", &point_given);
    switch(point_given){
        case 0:
            printf("At point: A\n");
            printf("point: C arrived to charging station\n");
            break;
        case 1:
            printf("At point: B\n");
            printf("point: C arrived to charging station\n");
            break;
        case 2:
            printf("point: C is a charging station\n");
            break;
        case 3:
            printf("point: D is a charging station\n");
            break;
        case 4:
            printf("At point: E\n");
            printf("point: D arrived to charging station\n");
            break;
        case 5:
            printf("At point: F\n");
            printf("point: C arrived to charging station\n");
            break;
        case 6:
            printf("At point: G\n");
            printf("point: D arrived to charging station\n");
            break;
        case 7:
            printf("At point: H\n");
            printf("point: C arrived to charging station\n");
            break;
        default:
        printf("Invalid.\n");
    }
    return 0;
}
```

```
C:\Users\Jullene Rae\OneDrive\Desktop>.\as7
   1   1   0   0   0   1   0   0
   1   1   1   0   0   0   0   0
 [0] [1] [1] [0] [1] [1] [0] [0]
 [0] [0] [0] [1] [1] [0] [0] [0]
   0   0   0   1   1   0   0   0
   1   0   1   0   0   1   0   0
   1   0   0   1   0   0   1   0
   0   0   0   0   0   1   0   1

Which point are you located? 0 - A, 1 - B, 2 - C, 3 - D, 4 - E, 5 - F, 6 - G, 7 - H

0
At point: A
point: C arrived to charging station
```