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MP 1

1.
```
1 2 4 8 16 32 64 128
```
2. B.
3.
```c
#include <stdio.h>
int main(void)
{
    int i;
    for (i = 1; i <= 128; i *= 2) {
        printf("%d ", i);
    }
    return 0;
}
```
4.
```c
#include <stdio.h>

int main(void) {
    int exponent, result;

    printf("Enter the exponent: ");
    scanf("%d", &exponent);

    result = 1 << exponent;

    printf("2 raised to the power of %d is: %d", exponent, result);
    return 0;
}
```

5.

```c
#include <stdio.h>

int main(void) {
    int days, start, week;

    // Prompt user for input
    printf("Enter the number of days in the month: ");
    scanf("%d", &days);

    printf("Enter the day of the week on which the month starts (0=Sunday, 1=Monday, ..., 6=Saturday): ");
    scanf("%d", &start);

    // Print the calendar
    printf("\nSu  Mo  Tu  We  Th  Fr  Sa\n");

    for (week = 0; week < start; Week++) {
        printf("    ");
    }

    for (int day = 1; day <= days; day++) {
        printf("%2d  ", day);

        if (++week > 6) {
            printf("\n");
            week = 0;
        }
    }

    while (week++ < 7) {
        printf("    ");
    }

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

6.

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

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

int main() {
    // A boolean array that contains true/false values referring to whether a certain pathway is open/close for transportation.
    // Only pathways 0 and 2 are open for transportation.
    bool pathway[8] = {false};

    pathway[0] = true;
    pathway[2] = true;

    for (int i = 0; i < NUM_PATHWAYS; i++) {
        // Display the status of each pathway.
        // Remember that pathway is type bool so its elements are either true/false or 1/0.
        if (pathway[i]) {
            printf("Pathway %d is open.\n", i);
        } else {
            printf("Pathway %d is closed.\n", i);
        }
    }

    return 0;
}
```