

```
#include <stdio.h>

int min(int a, int b){
    return a < b ? a : b;
}

// diff tells me the number of topics in previous week
// Initially diff = -1 telling us that we have just started
void genCourse(int *topics, int n, int T, int pos, int diff){
    if(pos == n){
        for(int i = 0; i < n; i++){
            printf("%d", topics[i]);
            printf("\n");
        }
        return;
    }
    if(pos == 0){ // Just starting out
        for(int i = 0; i <= T; i++){
            topics[pos] = i; // Cover i topics in week 1
            genCourse(topics, n, T, pos+1, i);
        }
        return;
    }
    // Cannot cover more topics than previous weeks
    // Cannot cover more than T topics in total either
    int maxTopic = min(T, topics[pos-1] + diff);
    for(int i = topics[pos-1]; i <= maxTopic; i++){
        topics[pos] = i;
        // We covered (topics[pos] - topics[pos-1]) topics this week
        genCourse(topics, n, T, pos+1, topics[pos] - topics[pos-1]);
    }
    return;
}

int main(){
    int n, T;
    scanf("%d %d", &n, &T);
    int topics[n];
    genCourse(topics, n, T, 0, -1);
}
```