

```

221     void all_combinations_go_w_repetitions( int offset, int k, std::vector<std::vector<unsigned int>>& combs, std::vector<unsigned
    int>& tmp_combs, std::vector<unsigned int>& available_items )
222     {
223         if( k == 0 ) {
224             combs.push_back( tmp_combs );
225             return;
226         }
227         [[rph::pipeline, rph::id(3) , rph::stream(i,tmp_combs,available_items,combs)]]
228         for( unsigned int i = offset; i <= available_items.size() - k; ++i ) {
229
230             [[rph::stage(0), rph::pipelineid(3), rph::in(i,offset,tmp_combs,available_items), rph::out(i,tmp_combs,available_items)]]
231             {
232
233                 assert( available_items[i] == i );
234                 tmp_combs.push_back( available_items[i]
235                 );
236
237                 [[rph::stage(1), rph::pipelineid(3), rph::in(available_items,i,k,combs,tmp_combs), rph::out(combs,tmp_combs)]]
238                 {
239                     );
240                     combinations_go_w_repetitions( i, k - 1, combs, tmp_combs, available_items );
241                     tmp_combs.pop_back();
242
243                 }
244             }
245         }

```