C++ Exam Cheat Sheet

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Datatyps

std::string

int

float

etc.

Arrays and List

int ar[size]

int arLenght = sizeof(ar) / sizeof-(int);

Class Body File Paradigm // Compare Header

```
#include "Zaehlwerk.h"
Zaehlw erk ::Z aeh lwe -
rk(int ma){
zahl = 0;
max = ma;
}
void Zaehlw erk ::I -
nkr eme nti eren(){
if (zahl < max)
zahl++;
}
std::s tring Zaehlw -
erk ::A nze igen(){
return "der Zaehler ist
auf der " +st d:: to_ -
str ing (zahl);
}
```

Extensions / CPP File

```
#include
"Ringwerkzaehler.h"
Ringwe rkz aeh ler ::R -
ing wer kza ehler()
:Zaehl werk(){ }
```

Extensions / CPP File (cont)

> Ringwerkzaehler::Ringwerkza-ehler(int ma) : Zaehlwerk(ma){ }
void Ringwerkzaehler::Inkreme-ntieren(){
if (zahl < max)
zahl++;
else
zahl = 0;
}

bubbleSort Algorithmus

```
void bubblesort(int
*array, int length){
        int j;
  for (j = 0; j < length
- i - 1; ++j) {
  if (array[j] > array[j
+ 1]) {
  int tmp = array[j];
  array[j] = array[j +
1];
  array[j + 1] = tmp;
  }
        }
 }
```

Compare Classes

bool operator < (classobj) { return (cVar < obj.cVar); } //In Constructor

Class header File Paradigm

```
class Zaehlwerk
{
protected:
int zahl;
int max;
public:
```

Class header File Paradigm (cont)

> Zaehlwerk();
Zaehlwerk(int max);
~Zaehlwerk();
virtual void Inkrementieren();
virtual void Dekrementieren();
virtual std::string Anzeigen();
virtual void Zuruecksetzen();
private:
};

Extentions / Header File

```
class Ringwerkzaehler :
Zaehlwerk
{
public:
Ringwe rkz aeh ler();
Ringwe rkz aeh ler(int
ma);
~Ringw erk zae hler();
void Inkrem ent ieren()
override;
void Dekrem ent ieren()
override;
std::s tring Anzeigen()
override;
void Zuruec kse tzen()
override;
};
```

Thread Operations

std::this_thread::sleep_for(std::-chrono::seconds(1));

String functions

printf("%s\n", text.c_str());

std::string s1('*', 20);

s1.append(s2);

int equ = s1.compare(2, 4, s2);

s1.clear();

s2.erase(1, 3);

s1.find_last_of(s2);

s.insert(2, " einString ", 0, 3);

s.length();

s.replace(2, 5, "anoString", 2,2);

std::string s3=s1.substr(2,3);

Data processing / Read file / char

```
std::ifstream f;
f.open (fi leName,
std::i os_ bas e:: out);
int counter = 0;
char t;
while (f.get(t))
if (t == c)
counter++;
f.close();
```

Struct Example

```
struct kontakt{
std::s tring name;
int nummer;
std::s tring toString()
{
std::s tring temp = name
+ " ";
temp += std::t o_s tri -
ng( num mer);
return temp;
}
};
```

Data processing / Write file

```
std::ofstream f;
f.open (fi leName,
std::i os_ bas e:: out);
std::s tring temp =
" ";
temp = "joe ";
temp += std::t o_s tri -
ng( 120);
f << temp << std::endl;
f.close();
```

Debugger / cout shorter

```
//Debug Messanger
#define DEBUG 1
#if DEBUG
#define LOG(x) std::cout
<< x << std::endl
#else
#define LOG(x)
#endif
system ("PA USE "); //
Just here to remember
```

Data processing / Read file / getLine

```
std::vector<kontakt>
kontaktListe(readFile(filename));
std::i fstream f;
f.open (fi leName, std::i os_ -
bas e:: out);
std::s tring t="";
int i = 0;
while (getli ne(f, t))
{
for each (char var in t)
{
if (var == ' ')
{
//Oper ation
}
else
i++;
}
i = 0;
}
f.close();
```