# Типы данных:

Тип	Размер(в байтах)
int	4
double	8
char	1
bool	1
string размера n	n
ifstream	520
ofstream	512

## Типы данных программы:

(длина имени языка ограничена 30, поэтому при подсчете везде будем считать что длина 30)

class language	42	
double popularity	8[0]	
int creation_year	4[8]	
string name	30[12]	

class functional : language	47
typing typing_type	4[0]
bool lazy_computation	1[4]
double popularity	8[5]
int creation_year	4[13]
string name	30[17]

class procedural : language	43
bool has adt	1[0]
double popularity	8[1]
int creation_year	4[9]
string name	30[13]

class object_oriented : language	46
inheritance inheritance_type	4[0]
double popularity	8[4]
int creation_year	4[12]
string name	30[16]

class container	80004
int le	4[0]
language *storage[10000]	80000[4]

enum functional::typing	4
int DYNAMIC	4[0]
int STRICT	4[0]

enum object_oriented::inheritance	4
int SINGLE	4[0]
int MULTIPLE	4[0]
int INTERFACE	4[0]

## Глобальные переменные

int MAX_NAME_SIZE	4[0]
int MAX_CONTAINER_SIZE	4[4]

## Память программы:

int main	81052
int argc	4[0]
char* argv[]	8[4]
container c	80004[12]
ifstream ifst	520[80016]
int size	4[80536]
ofstream ofst	512[80540]

void ShellSort(container &c)	80024
container &c	80004[0]
int d	4[80004]
int i	4[80008]
int j	4[80012]
language *tmp	8[80016]

void InRnd()	8
language *lang	8[0]

#### Стек вызовов

int main(int argc, char *argv[])
(runTests   errMessage1) -> main
Init
Init
In   InRnd   (errMessage2 -> main)
Out
Out
ShellSort
ShellSort
Out
Out
Clear
Clear
main

In(containter &c, FILE *file)
In() -> (In(procedural ⟨)   In(functional ⟨)   In(object-oriented ⟨)) -> In()
ln In

#### InRnd(containter &c)

InRnd() -> (InRnd(procedural &lang) | InRnd(functional &lang) | InRnd(object-oriented &lang)) -> InRnd(...)

InRnd

## Out(containter &c)

 $Out() \rightarrow (Out(procedural \& lang) \mid Out(functional \& lang) \mid Out(object-oriented \& lang)) \rightarrow \\ \frac{Out(...)}{Out(object-oriented \& lang)} \rightarrow \frac{Out(...)}{Out(object-oriented \& lang)} \rightarrow Out(object-oriented \& lang)$ 

Out