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образовательное учреждение
высшего образования
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ОТЧЕТ О ЛАБОРАТОРНОЙ РАБОТЕ

Лабораторная работа № 5. Взаимодействие процессов в ОС GNU/Linux

тема

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Красноярск 2019

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1 Цель работы с постановкой задачи

1.1 Цель работы

Изучение особенностей межпроцессного взаимодействия в ОС GNU/Linux.

1.2 Задача работы

Требуется: разработать две программы: первая реализует серверную часть, вторая — клиентскую часть. Обмен данными между ними организуется посредством механизма Internet-сокетов и протокола TCP либо UDP. Результат выполнения выводится на терминал/консоль. Должен использоваться интерфейс командной строки (CLI). При реализации обязательно использование изученных в лекционном курсе системных вызовов (ОС Linux), предназначенных для работы с сокетами. Программный код, относящийся к пользовательскому интерфейсу, должен быть физически отделен от кода, реализующего межпроцессное взаимодействие, и оба они, в свою очередь, отделены от кода реализации основной логики, например, вычислений. Допускается реализация одной программы в форме Windows-приложения, авторой — в форме Linux-приложения. Далее оговаривается функционал клиентской и серверной частей. Обе части должны быть устойчивы к некорректному пользовательскому вводу. В нечетных вариантах заданий используются потоковые сокеты, в четных — дейтаграммные сокеты.

Вариант 16. Клиент отсылает серверу элементы двух квадратных матриц одинакового размера. Его, а также сами элементы матриц должен вводить пользователь. Сервер принимает две квадратные матрицы, а затем выводит на экран сумму матриц, а также определитель суммарной матрицы.

Используются дейтаграммные сокеты по протоколу UDP.

1.3 Описание и пояснение к работе

Используется система сборки Autotools на Linux и CMake на Windows и Linux. Используется интерфейс командной строки. Для сборки, вывода справки клиента и сервера требуется:

```
# Linux, autotools, make, gcc
./configure
make
./build/Lab_05_Client -h
./build/Lab_05_Server -h

# Linux, autotools, make, clang
./configure CC=clang
make
./build/Lab_05_Client -h
./build/Lab_05_Server -h

# Linux, cmake, make, gcc
mkdir buildcmake
cd buildcmake
cmake ..
make
./Lab_05_Client/Lab_05_Client -h
./Lab_05_Server/Lab_05_Server -h

# Linux, cmake, make, clang
mkdir buildcmake
cd buildcmake
cmake -DCMAKE_C_COMPILER=clang ..
make
./Lab_05_Client/Lab_05_Client -h
./Lab_05_Server/Lab_05_Server -h

# Linux, cmake, ninja, clang
mkdir buildcmake
cd buildcmake
cmake -G "Ninja" -DCMAKE_C_COMPILER=clang ..
ninja
./Lab_05_Client/Lab_05_Client -h
./Lab_05_Server/Lab_05_Server -h

# windows, cmake, msbuild, msvc
mkdir buildcmake
cd buildcmake
cmake -G "Visual Studio 16 2019" ..
msbuild .\ALL_BUILD.vcxproj
.\Lab_05_Client\Debug\Lab_05_Client.exe -h
.\Lab_05_Server\Debug\Lab_05_Server.exe -h

# windows, cmake, mingw32-make, mingw
mkdir buildcmake
cd buildcmake
```

```

cmake -G "MinGW Makefiles" ..
mingw32-make
.\Lab_05_Client\Lab_05_Client.exe -h
.\Lab_05_Server\Lab_05_Server.exe -h

# windows, cmake, mingw32-make, clang
mkdir buildcmake
cd buildcmake
cmake -G "MinGW Makefiles" -DCMAKE_C_COMPILER=clang -DCMAKE_CXX_COMPILER=clang++ ..
mingw32-make
.\Lab_05_Client\Lab_05_Client.exe -h
.\Lab_05_Server\Lab_05_Server.exe -h

# windows, cmake, ninja, clang
mkdir buildcmake
cd buildcmake
cmake -G "Ninja" -DCMAKE_C_COMPILER=clang -DCMAKE_CXX_COMPILER=clang++ -
DCMAKE_RC_COMPILER=llvm-rc ..
ninja
.\Lab_05_Client\Lab_05_Client.exe -h
.\Lab_05_Server\Lab_05_Server.exe -h

```

2 Исходные тексты программ (с комментариями в стиле системы doxygen)

Исходные тексты программ предоставлены в архиве.

3 Содержимое скрипта configure

```

#!/bin/sh
# Guess values for system-dependent variables and create Makefiles.
# Generated by GNU Autoconf 2.69 for Lab_05 3.0.
#
# Report bugs to <misterptits@yandex.ru>.
#
#
# Copyright (C) 1992-1996, 1998-2012 Free Software Foundation, Inc.
#
#
# This configure script is free software; the Free Software Foundation
# gives unlimited permission to copy, distribute and modify it.
## -----
## M4sh Initialization.
## -----
## Be more Bourne compatible
DUALCASE=1; export DUALCASE # for MKS sh
if test -n "${ZSH_VERSION+set}" && (emulate sh) >/dev/null 2>&1; then :
    emulate sh
    NULLCMD=:
# Pre-4.2 versions of Zsh do word splitting on ${1+"$@"}, which

```



```

# IFS
# We need space, tab and new line, in precisely that order. Quoting is
# there to prevent editors from complaining about space-tab.
# (If _AS_PATH_WALK were called with IFS unset, it would disable word
# splitting by setting IFS to empty value.)
IFS="" $as_nl"

# Find who we are. Look in the path if we contain no directory separator.
as_myself=
case $0 in #(
  *[\\/*) as_myself=$0 ;;
  *) as_save_IFS=$IFS; IFS=$PATH_SEPARATOR
for as_dir in $PATH
do
  IFS=$as_save_IFS
  test -z "$as_dir" && as_dir=.
  test -r "$as_dir/$0" && as_myself=$as_dir/$0 && break
done
IFS=$as_save_IFS

;;
esac
# We did not find ourselves, most probably we were run as `sh COMMAND'
# in which case we are not to be found in the path.
if test "x$as_myself" = x; then
  as_myself=$0
fi
if test ! -f "$as_myself"; then
  $as_echo "$as_myself: error: cannot find myself; rerun with an absolute file name"
>&2
  exit 1
fi

# Unset variables that we do not need and which cause bugs (e.g. in
# pre-3.0 UWIN ksh). But do not cause bugs in bash 2.01; the "|| exit 1"
# suppresses any "Segmentation fault" message there. '()' could
# trigger a bug in pdksh 5.2.14.
for as_var in BASH_ENV ENV MAIL MAILPATH
do eval test x\$${as_var+set} = xset \
  && ( (unset $as_var) || exit 1 ) >/dev/null 2>&1 && unset $as_var || :
done
PS1='$ '
PS2='> '
PS4='+' '

# NLS nuisances.
LC_ALL=C
export LC_ALL
LANGUAGE=C
export LANGUAGE

# CDPATH.
(unset CDPATH) >/dev/null 2>&1 && unset CDPATH

# Use a proper internal environment variable to ensure we don't fall
# into an infinite loop, continuously re-executing ourselves.
if test x"${_as_can_reexec}" != xno && test "x$CONFIG_SHELL" != x; then
  _as_can_reexec=no; export _as_can_reexec;

```

```

# We cannot yet assume a decent shell, so we have to provide a
# neutralization value for shells without unset; and this also
# works around shells that cannot unset nonexistent variables.
# Preserve -v and -x to the replacement shell.
BASH_ENV=/dev/null
ENV=/dev/null
(unset BASH_ENV) >/dev/null 2>&1 && unset BASH_ENV ENV
case $- in # ((((
    *v*x* | *x*v* ) as_opts=-vx ;;
    *v* ) as_opts=-v ;;
    *x* ) as_opts=-x ;;
    * ) as_opts= ;;
esac
exec $CONFIG_SHELL $as_opts "$as_myself" ${1+"$@"}
# Admittedly, this is quite paranoid, since all the known shells bail
# out after a failed `exec'.
$as_echo "$0: could not re-execute with $CONFIG_SHELL" >&2
as_fn_exit 255
fi
# We don't want this to propagate to other subprocesses.
{ _as_can_reexec=; unset _as_can_reexec;}
if test "x$CONFIG_SHELL" = x; then
    as_bourne_compatible="if test -n \"\$${ZSH_VERSION+set}\\" && (emulate sh) >/dev/null
2>&1; then :
    emulate sh
    NULLCMD=:
    # Pre-4.2 versions of Zsh do word splitting on \$${1+"$@"}, which
    # is contrary to our usage. Disable this feature.
    alias -g '\${1+"\$@"}'='"\$@"
    setopt NO_GLOB_SUBST
else
    case \`(set -o) 2>/dev/null\` in
    *posix*) :
        set -o posix ;; #(
    *) :
        ;;
esac
fi
"
as_required="as_fn_return () { (exit \$1); }
as_fn_success () { as_fn_return 0; }
as_fn_failure () { as_fn_return 1; }
as_fn_ret_success () { return 0; }
as_fn_ret_failure () { return 1; }

exitcode=0
as_fn_success || { exitcode=1; echo as_fn_success failed.; }
as_fn_failure && { exitcode=1; echo as_fn_failure succeeded.; }
as_fn_ret_success || { exitcode=1; echo as_fn_ret_success failed.; }
as_fn_ret_failure && { exitcode=1; echo as_fn_ret_failure succeeded.; }
if ( set x; as_fn_ret_success y && test x = "\$1" ); then :

else
    exitcode=1; echo positional parameters were not saved.
fi
test x\$exitcode = x0 || exit 1
test -x / || exit 1"
    as_suggested=""
as_lineno_1=";as_suggested=$as_suggested$LINENO;as_suggested=$as_suggested"
as_lineno_1a=\$LINENO

```

```

    as_lineno_2=";as_suggested=$as_suggested$LINENO;as_suggested=$as_suggested"
as_lineno_2a=\$LINENO
    eval 'test \"x\$as_lineno_1'\$\$as_run\' != \"x\$as_lineno_2'\$\$as_run\' &&
    test \"x`\expr \$as_lineno_1'\$\$as_run' + 1` = \"x\$as_lineno_2'\$\$as_run\'"' || exit 1
test \$(( 1 + 1 )) = 2 || exit 1
    if (eval "$as_required") 2>/dev/null; then :
    as_have_required=yes
else
    as_have_required=no
fi
    if test x$as_have_required = xyes && (eval "$as_suggested") 2>/dev/null; then :

else
    as_save_IFS=$IFS; IFS=$PATH_SEPARATOR
as_found=false
for as_dir in /bin$PATH_SEPARATOR/usr/bin$PATH_SEPARATOR$PATH
do
    IFS=$as_save_IFS
    test -z "$as_dir" && as_dir=.
    as_found=:
    case $as_dir in
        /*)
            for as_base in sh bash ksh sh5; do
                # Try only shells that exist, to save several forks.
                as_shell=$as_dir/$as_base
                if { test -f "$as_shell" || test -f "$as_shell.exe"; } &&
                    { $as_echo "$as_bourne_compatible""$as_required" | as_run=a "$as_shell"; }
                2>/dev/null; then :
                    CONFIG_SHELL=$as_shell as_have_required=yes
                    if { $as_echo "$as_bourne_compatible""$as_suggested" | as_run=a "$as_shell"; }
                2>/dev/null; then :
                    break 2
                fi
            done;;
            esac
        as_found=false
    done
    $as_found || { if { test -f "$SHELL" || test -f "$SHELL.exe"; } &&
        { $as_echo "$as_bourne_compatible""$as_required" | as_run=a "$SHELL"; }
    2>/dev/null; then :
        CONFIG_SHELL=$SHELL as_have_required=yes
    fi; }
IFS=$as_save_IFS

    if test "x$CONFIG_SHELL" != x; then :
export CONFIG_SHELL
        # We cannot yet assume a decent shell, so we have to provide a
# neutralization value for shells without unset; and this also
# works around shells that cannot unset nonexistent variables.
# Preserve -v and -x to the replacement shell.
BASH_ENV=/dev/null
ENV=/dev/null
(unset BASH_ENV) >/dev/null 2>&1 && unset BASH_ENV ENV
case $- in # ((((
    *v*x* | *x*v* ) as_opts=-vx ;;
    *v* ) as_opts=-v ;;
    *x* ) as_opts=-x ;;

```

```

        * ) as_opts= ;;
esac
exec $CONFIG_SHELL $as_opts "$as_myself" ${1+"$@"}
# Admittedly, this is quite paranoid, since all the known shells bail
# out after a failed `exec'.
$as_echo "$0: could not re-execute with $CONFIG_SHELL" >&2
exit 255
fi

if test x$as_have_required = xno; then :
$as_echo "$0: This script requires a shell more modern than all"
$as_echo "$0: the shells that I found on your system."
if test x${ZSH_VERSION+set} = xset ; then
    $as_echo "$0: In particular, zsh $ZSH_VERSION has bugs and should"
    $as_echo "$0: be upgraded to zsh 4.3.4 or later."
else
    $as_echo "$0: Please tell bug-autoconf@gnu.org and"
$0: misterptits@yandex.ru about your system, including any
$0: error possibly output before this message. Then install
$0: a modern shell, or manually run the script under such a
$0: shell if you do have one."
fi
exit 1
fi
fi
SHELL=${CONFIG_SHELL-/bin/sh}
export SHELL
# Unset more variables known to interfere with behavior of common tools.
CLICOLOR_FORCE= GREP_OPTIONS=
unset CLICOLOR_FORCE GREP_OPTIONS

## -----
## M4sh Shell Functions. ##
## -----
# as_fn_unset VAR
# -----
# Portably unset VAR.
as_fn_unset ()
{
    { eval $1=; unset $1; }
}
as_unset=as_fn_unset

# as_fn_set_status STATUS
# -----
# Set $? to STATUS, without forking.
as_fn_set_status ()
{
    return $1
} # as_fn_set_status

# as_fn_exit STATUS
# -----
# Exit the shell with STATUS, even in a "trap 0" or "set -e" context.
as_fn_exit ()
{
    set +e
    as_fn_set_status $1
    exit $1
}

```



```

# advantage of any shell optimizations that allow amortized linear growth over
# repeated appends, instead of the typical quadratic growth present in naive
# implementations.
if (eval "as_var=1; as_var+=2; test x\$as_var = x12") 2>/dev/null; then :
  eval 'as_fn_append ()'
{
  eval $1+=$2
}
else
  as_fn_append ()
{
  eval $1=$1$2
}
fi # as_fn_append

# as_fn_arith ARG...
# -----
# Perform arithmetic evaluation on the ARGs, and store the result in the
# global $as_val. Take advantage of shells that can avoid forks. The arguments
# must be portable across $() and expr.
if (eval "test \$(( 1 + 1 )) = 2") 2>/dev/null; then :
  eval 'as_fn_arith ()'
{
  as_val=$(( $* ))
}
else
  as_fn_arith ()
{
  as_val=`expr "$@" || test $? -eq 1` 
}
fi # as_fn_arith

# as_fn_error STATUS ERROR [LINENO LOG_FD]
# -----
# Output ``basename $0``: error: ERROR to stderr. If LINENO and LOG_FD are
# provided, also output the error to LOG_FD, referencing LINENO. Then exit the
# script with STATUS, using 1 if that was 0.
as_fn_error ()
{
  as_status=$1; test $as_status -eq 0 && as_status=1
  if test "$4"; then
    as_lineno=${as_lineno-$3} as_lineno_stack=as_lineno_stack=$as_lineno_stack
    $as_echo "$as_me:${as_lineno-$LINENO}: error: $2" >&$4
  fi
  $as_echo "$as_me: error: $2" >&2
  as_fn_exit $as_status
} # as_fn_error

if expr a : '\(a\)' >/dev/null 2>&1 &&
  test "X`expr 00001 : '.*\(...\)`" = X001; then
  as_expr=expr
else
  as_expr=false
fi

if (basename -- /) >/dev/null 2>&1 && test "X`basename -- / 2>&1`" = "X/"; then
  as_basename=basename
else
  as_basename=false
fi

```

```

fi

if (as_dir=`dirname -- /` && test "X$as_dir" = X/) >/dev/null 2>&1; then
    as dirname=dirname
else
    as dirname=false
fi

as_me=`$as_basename -- "$0" ||
$as_expr X/"$0" : '.*//([^\/*][^\/*]*/\/*$' \| \
X"$0" : 'X//(\/)$' \| \
X"$0" : 'X(\/)' \| . 2>/dev/null ||
$as_echo X/"$0" |
    sed '/^.*//([^\/*][^\/*]*/\/*$/{
        s//\1/
        q
    }
/^X//([^\/*]$/{
        s//\1/
        q
    }
/^X//([^\/*].*/{
        s//\1/
        q
    }
s/.*/./; q'`


# Avoid depending upon Character Ranges.
as_cr_letters='abcdefghijklmnopqrstuvwxyz'
as_cr LETTERS='ABCDEFGHIJKLMNOPQRSTUVWXYZ'
as_cr_Letters=$as_cr_letters$as_cr LETTERS
as_cr_digits='0123456789'
as_cr_alnum=$as_cr_Letters$as_cr_digits

as_lineno_1=$LINENO as_lineno_1a=$LINENO
as_lineno_2=$LINENO as_lineno_2a=$LINENO
eval 'test "x$as_lineno_1$as_run" != "x$as_lineno_2$as_run" &&
test "x`expr $as_lineno_1$as_run + 1`" = "x$as_lineno_2$as_run"' || {
# Blame Lee E. McMahon (1931-1989) for sed's syntax.  :-)
sed -n '
    p
    /[$]LINENO/=
    <$as_myself |
    sed '
        s/[$]LINENO.*/&-
        t lineno
        b
        :lineno
        N
        :loop
        s/[$]LINENO\(([^\$as_cr_alnum_]*)\n\)(.*\)/\2\1\2/
        t loop
        s/-\n.*//
    ' >$as_me.lineno &&
    chmod +x "$as_me.lineno" ||
    { $as_echo "$as_me: error: cannot create $as_me.lineno; rerun with a POSIX shell"
>&2; as_fn_exit 1; }

# If we had to re-execute with $CONFIG_SHELL, we're ensured to have

```

```

# already done that, so ensure we don't try to do so again and fall
# in an infinite loop. This has already happened in practice.
_as_can_reexec=no; export _as_can_reexec
# Don't try to exec as it changes ${[0]}, causing all sort of problems
# (the dirname of ${[0]} is not the place where we might find the
# original and so on. Autoconf is especially sensitive to this).
. "./$as_me.lineno"
# Exit status is that of the last command.
exit
}

ECHO_C= ECHO_N= ECHO_T=
case `echo -n x` in
-n*)
  case `echo 'xy\c'` in
*c*) ECHO_T=' ';; # ECHO_T is single tab character.
xy) ECHO_C='\c';;
*) echo `echo ksh88 bug on AIX 6.1` > /dev/null
   ECHO_T=' ';;
esac;;
*)
  ECHO_N='-n';
esac

rm -f conf$$ conf$$..exe conf$$..file
if test -d conf$$..dir; then
  rm -f conf$$..dir/conf$$..file
else
  rm -f conf$$..dir
  mkdir conf$$..dir 2>/dev/null
fi
if (echo >conf$$..file) 2>/dev/null; then
  if ln -s conf$$..file conf$$ 2>/dev/null; then
    as_ln_s='ln -s'
    # ... but there are two gotchas:
    # 1) On MSYS, both `ln -s file dir` and `ln file dir` fail.
    # 2) DJGPP < 2.04 has no symlinks; `ln -s` creates a wrapper executable.
    # In both cases, we have to default to `cp -pR'.
    ln -s conf$$..file conf$$..dir 2>/dev/null && test ! -f conf$$..exe ||
      as_ln_s='cp -pR'
  elif ln conf$$..file conf$$ 2>/dev/null; then
    as_ln_s=ln
  else
    as_ln_s='cp -pR'
  fi
else
  as_ln_s='cp -pR'
fi
rm -f conf$$ conf$$..exe conf$$..dir/conf$$..file conf$$..file
rmdir conf$$..dir 2>/dev/null

if mkdir -p . 2>/dev/null; then
  as_mkdir_p='mkdir -p "$as_dir"'
else
  test -d ./-p && rmdir ./-p
  as_mkdir_p=false
fi

as_test_x='test -x'
as_executable_p=as_fn_executable_p

```

```

# Sed expression to map a string onto a valid CPP name.
as_tr_cpp="eval sed 'y%*$as_cr_letters%P$as_cr LETTERS%;s%[^_$.as_cr_alnum]%^%g'"

# Sed expression to map a string onto a valid variable name.
as_tr_sh="eval sed 'y%*+%pp%;s%[^_$.as_cr_alnum]%^%g'"

test -n "$DJDIR" || exec 7<&0 </dev/null
exec 6>&1

# Name of the host.
# hostname on some systems (SVR3.2, old GNU/Linux) returns a bogus exit status,
# so uname gets run too.
ac_hostname=`(hostname || uname -n) 2>/dev/null | sed 1q` 

#
# Initializations.
#
ac_default_prefix=/usr/local
ac_clean_files=
ac_config_libobj_dir=.
LIBOJJS=
cross_compiling=no
subdirs=
MFLAGS=
MAKEFLAGS=

# Identity of this package.
PACKAGE_NAME='Lab_05'
PACKAGE_TARNAME='lab_05'
PACKAGE_VERSION='3.0'
PACKAGE_STRING='Lab_05 3.0'
PACKAGE_BUGREPORT='misterptits@yandex.ru'
PACKAGE_URL=''

ac_unique_file="Lab_05_Client/main.c"
# Factoring default headers for most tests.
ac_includes_default="\
#include <stdio.h>
#ifndef HAVE_SYS_TYPES_H
#include <sys/types.h>
#endif
#ifndef HAVE_SYS_STAT_H
#include <sys/stat.h>
#endif
#ifndef STDC_HEADERS
#include <stdlib.h>
#include <stddef.h>
#else
#ifndef HAVE_STDLIB_H
#include <stdlib.h>
#endif
#endif
#ifndef HAVE_STRING_H
#if !defined STDC_HEADERS && defined HAVE_MEMORY_H
#include <memory.h>
#endif
#include <string.h>
#endif

```

```
#ifdef HAVE_STRINGS_H
# include <strings.h>
#endif
#ifndef HAVE_INTTYPES_H
# include <inttypes.h>
#endif
#ifndef HAVE_STDINT_H
# include <stdint.h>
#endif
#ifndef HAVE_UNISTD_H
# include <unistd.h>
#endif"

ac_subst_vars='am__EXEEXT_FALSE
am__EXEEXT_TRUE
LTLIBOJS
RANLIB
AM_BACKSLASH
AM_DEFAULT_VERBOSITY
AM_DEFAULT_V
AM_V
am__fastdepCC_FALSE
am__fastdepCC_TRUE
CCDEPMODE
am__nodep
AMDEPBACKSLASH
AMDEP_FALSE
AMDEP_TRUE
am__quote
am__include
DEPDIR
am__untar
am__tar
AMTAR
am__leading_dot
SET_MAKE
AWK
mkdir_p
MKDIR_P
INSTALL_STRIP_PROGRAM
STRIP
install_sh
MAKEINFO
AUTOHEADER
AUTOMAKE
AUTOCONF
ACLOCAL
VERSION
PACKAGE
CYGPATH_W
am__isrc
INSTALL_DATA
INSTALL_SCRIPT
INSTALL_PROGRAM
LIBOJS
EGREP
GREP
CPP
OBJEXT
EXEEXT
```

```

ac_ct_CC
CPPFLAGS
LDFLAGS
CFLAGS
CC
target_alias
host_alias
build_alias
LIBS
ECHO_T
ECHO_N
ECHO_C
DEFS
mandir
localedir
libdir
psdir
pdfdir
dvidir
htmldir
infodir
docdir
oldincludedir
includedir
runstatedir
localstatedir
sharedstatedir
sysconfdir
datadir
datarootdir
libexecdir
sbindir
bindir
program_transform_name
prefix
exec_prefix
PACKAGE_URL
PACKAGE_BUGREPORT
PACKAGE_STRING
PACKAGE_VERSION
PACKAGE_TARNAME
PACKAGE_NAME
PATH_SEPARATOR
SHELL'
ac_subst_files=''
ac_user_opts='
enable_option_checking
enable_dependency_tracking
enable_silent_rules
'

ac_precious_vars='build_alias
host_alias
target_alias
CC
CFLAGS
LDFLAGS
LIBS
CPPFLAGS
CPP'

```

```

# Initialize some variables set by options.
ac_init_help=
ac_init_version=false
ac_unrecognized_opts=
ac_unrecognized_sep=
# The variables have the same names as the options, with
# dashes changed to underlines.
cache_file=/dev/null
exec_prefix=NONE
no_create=
no_recursion=
prefix=NONE
program_prefix=NONE
program_suffix=NONE
program_transform_name=s,x,x,
silent=
site=
srcdir=
verbose=
x_includes=NONE
x_libraries=NONE

# Installation directory options.
# These are left unexpanded so users can "make install exec_prefix=/foo"
# and all the variables that are supposed to be based on exec_prefix
# by default will actually change.
# Use braces instead of parens because sh, perl, etc. also accept them.
# (The list follows the same order as the GNU Coding Standards.)
bindir='${exec_prefix}/bin'
sbindir='${exec_prefix}/sbin'
libexecdir='${exec_prefix}/libexec'
datarootdir='${prefix}/share'
datadir='${datarootdir}'
sysconfdir='${prefix}/etc'
sharedstatedir='${prefix}/com'
localstatedir='${prefix}/var'
runstatedir='${localstatedir}/run'
includedir='${prefix}/include'
oldincludedir='/usr/include'
docdir='${datarootdir}/doc/${PACKAGE_TARNAME}'
infodir='${datarootdir}/info'
htmldir='${docdir}'
dvidir='${docdir}'
pdfdir='${docdir}'
psdir='${docdir}'
libdir='${exec_prefix}/lib'
localedir='${datarootdir}/locale'
mandir='${datarootdir}/man'

ac_prev=
ac_dashdash=
for ac_option
do
  # If the previous option needs an argument, assign it.
  if test -n "$ac_prev"; then
    eval $ac_prev=\$ac_option
    ac_prev=
    continue
  fi

```

```

case $ac_option in
*=?*) ac_optarg=`expr "X$ac_option" : '[^=]*=\(.*\)'` ;;
*) ac_optarg= ;;
*) ac_optarg=yes ;;
esac

# Accept the important Cygnus configure options, so we can diagnose typos.

case $ac_dashdash$ac_option in
--) ac_dashdash=yes ;;

-bindir | --bindir | --bindi | --bind | --bin | --bi)
  ac_prev=bindir ;;
-bindir=* | --bindir=* | --bindi=* | --bind=* | --bin=* | --bi=*)
  bindir=$ac_optarg ;;

-build | --build | --buil | --bui | --bu)
  ac_prev=build_alias ;;
-build=* | --build=* | --buil=* | --bui=* | --bu=*)
  build_alias=$ac_optarg ;;

-cache-file | --cache-file | --cache-fil | --cache-fi \
| --cache-f | --cache- | --cache | --cach | --cac | --ca | --c)
  ac_prev=cache_file ;;
-cache-file=* | --cache-file=* | --cache-fil=* | --cache-fi=* \
| --cache-f=* | --cache-=* | --cache=* | --cach=* | --cac=* | --ca=* | --c=*)
  cache_file=$ac_optarg ;;

--config-cache | -C)
  cache_file=config.cache ;;

-datadir | --datadir | --datadi | --datad)
  ac_prev=datadir ;;
-datadir=* | --datadir=* | --datadi=* | --datad=*)
  datadir=$ac_optarg ;;

-datarootdir | --datarootdir | --datarootdi | --datarootd | --dataroot \
| --dataroo | --dataro | --datar)
  ac_prev=datarootdir ;;
-datarootdir=* | --datarootdir=* | --datarootdi=* | --datarootd=* \
| --dataroot=* | --dataroo=* | --dataro=* | --datar=*)
  datarootdir=$ac_optarg ;;

-disable-* | --disable-*)
  ac_useropt=`expr "x$ac_option" : 'x-*disable-\(.*\)'`  

# Reject names that are not valid shell variable names.  

  expr "x$ac_useropt" : ".*[^-+._$as_cr_alnum]" >/dev/null &&
    as_fn_error $? "invalid feature name: $ac_useropt"
  ac_useropt_orig=$ac_useropt
  ac_useropt=`$as_echo "$ac_useropt" | sed 's/[+-]/_/g'`  

case $ac_user_opts in
  *)
"enable_$ac_useropt"
*) ;;
*) ac_unrecognized_opts="$ac_unrecognized_opts$ac_unrecognized_sep--disable-  

$ac_useropt_orig"
  ac_unrecognized_sep=', ';;
esac

```

```

eval enable_${ac_useropt=no} ;;

-docdir | --docdir | --docdi | --doc | --do)
  ac_prev=docdir ;;
-docdir=* | --docdir=* | --docdi=* | --doc=* | --do*)
  docdir=$ac_optarg ;;

-dvidir | --dvidir | --dvidi | --dvid | --dvi | --dv)
  ac_prev=dvidir ;;
-dvidir=* | --dvidir=* | --dvidi=* | --dvid=* | --dvi=* | --dv*)
  dvidir=$ac_optarg ;;

-enable-* | --enable-*)
  ac_useropt=`expr "x$ac_option" : 'x-*enable-\([^\=\]*\)'`  

# Reject names that are not valid shell variable names.  

  expr "x$ac_useropt" : ".*[^\+\.\_\$_as_cr_alnum]" >/dev/null &&  

    as_fn_error $? "invalid feature name: $ac_useropt"  

  ac_useropt_orig=$ac_useropt  

  ac_useropt=`$as_echo "$ac_useropt" | sed 's/[^\+\.\_]/_/g'`  

  case $ac_user_opts in  

    *"  

"enable_${ac_useropt}"  

"*) ;;  

*) ac_unrecognized_opts="$ac_unrecognized_opts$ac_unrecognized_sep--enable-  

$ac_useropt_orig"  

  ac_unrecognized_sep=', ';;  

  esac  

  eval enable_${ac_useropt}=\$ac_optarg ;;

-exec-prefix | --exec_prefix | --exec-prefix | --exec-prefi \
| --exec-pref | --exec-pre | --exec-pr | --exec-p | --exec- \
| --exec | --exe | --ex)
  ac_prev=exec_prefix ;;
-exec-prefix=* | --exec_prefix=* | --exec-prefix=* | --exec-prefi=* \
| --exec-pref=* | --exec-pre=* | --exec-pr=* | --exec-p=* | --exec-=* \
| --exec=* | --exe=* | --ex=*)
  exec_prefix=$ac_optarg ;;

-gas | --gas | --ga | --g)
  # Obsolete; use --with-gas.  

  with_gas=yes ;;

-help | --help | --hel | --he | -h)
  ac_init_help=long ;;
-help=r* | --help=r* | --hel=r* | --he=r* | -hr*)
  ac_init_help=recursive ;;
-help=s* | --help=s* | --hel=s* | --he=s* | -hs*)
  ac_init_help=short ;;

-host | --host | --hos | --ho)
  ac_prev=host_alias ;;
-host=* | --host=* | --hos=* | --ho=*)
  host_alias=$ac_optarg ;;

-htmldir | --htmldir | --htmldi | --htmlid | --html | --htm | --ht)
  ac_prev=htmldir ;;
-htmldir=* | --htmldir=* | --htmldi=* | --htmlid=* | --html=* | --htm=* \
| --ht=*)
  htmldir=$ac_optarg ;;
```

```

-includedir | --includedir | --includedi | --included | --include \
| --includ | --inclu | --incl | --inc)
  ac_prev=includedir ;;
-includedir=* | --includedir=* | --includedi=* | --included=* | --include=* \
| --includ=* | --inclu=* | --incl=* | --inc=*)
  includedir=$ac_optarg ;;

-infodir | --infodir | --infodi | --infod | --info | --inf)
  ac_prev=infodir ;;
-infodir=* | --infodir=* | --infodi=* | --infod=* | --info=* | --inf=*)
  infodir=$ac_optarg ;;

-libdir | --libdir | --libdi | --libd)
  ac_prev=libdir ;;
-libdir=* | --libdir=* | --libdi=* | --libd=*)
  libdir=$ac_optarg ;;

-libexecdir | --libexecdir | --libexecdi | --libexecd | --libexec \
| --libexe | --libex | --libe)
  ac_prev=libexecdir ;;
-libexecdir=* | --libexecdir=* | --libexecdi=* | --libexecd=* | --libexec=* \
| --libexe=* | --libex=* | --libe=*)
  libexecdir=$ac_optarg ;;

-localedir | --localedir | --localedi | --localized | --locale)
  ac_prev=localedir ;;
-localedir=* | --localedir=* | --localedi=* | --localized=* | --locale=*)
  localedir=$ac_optarg ;;

-localstatedir | --localstatedir | --localstatedi | --localstated \
| --localstate | --localstat | --localsta | --localst | --locals)
  ac_prev=localstatedir ;;
-localstatedir=* | --localstatedir=* | --localstatedi=* | --localstated=* \
| --localstate=* | --localstat=* | --localsta=* | --localst=* | --locals=*)
  localstatedir=$ac_optarg ;;

-mandir | --mandir | --mandi | --mand | --man | --ma | --m)
  ac_prev=mandir ;;
-mandir=* | --mandir=* | --mandi=* | --mand=* | --man=* | --ma=* | --m=*)
  mandir=$ac_optarg ;;

-nfp | --nfp | --nf)
  # Obsolete; use --without-fp.
  with_fp=no ;;

-no-create | --no-create | --no-creat | --no-crea | --no-cre \
| --no-cr | --no-c | -n)
  no_create=yes ;;

-no-recursion | --no-recursion | --no-recursio | --no-recursi \
| --no-recurs | --no-recur | --no-recu | --no-rec | --no-re | --no-r)
  no_recursion=yes ;;

-oldincludedir | --oldincludedir | --oldincludedi | --oldincluded \
| --oldinclude | --oldinclud | --oldinclu | --oldincl | --oldinc \
| --oldin | --oldi | --old | --ol | --o)
  ac_prev=oldincludedir ;;
-oldincludedir=* | --oldincludedir=* | --oldincludedi=* | --oldincluded=* \
| --oldinclude=* | --oldinclud=* | --oldinclu=* | --oldincl=* | --oldinc=* \
| --oldin=* | --oldi=* | --old=* | --ol=* | --o=*)

```

```

oldincludedir=$ac_optarg ;;

-prefix | --prefix | --prefi | --pref | --pre | --pr | --p)
  ac_prev=prefix ;;
-prefix=* | --prefix=* | --prefi=* | --pref=* | --pre=* | --pr=* | --p*)
  prefix=$ac_optarg ;;

-program-prefix | --program-prefix | --program-prefi | --program-pref \
| --program-pre | --program-pr | --program-p)
  ac_prev=program_prefix ;;
-program-prefix=* | --program-prefix=* | --program-prefi=* \
| --program-pref=* | --program-pre=* | --program-pr=* | --program-p*)
  program_prefix=$ac_optarg ;;

-program-suffix | --program-suffix | --program-suffi | --program-suff \
| --program-suf | --program-su | --program-s)
  ac_prev=program_suffix ;;
-program-suffix=* | --program-suffix=* | --program-suffi=* \
| --program-suff=* | --program-suf=* | --program-su=* | --program-s*)
  program_suffix=$ac_optarg ;;

-program-transform-name | --program-transform-name \
| --program-transform-nam | --program-transform-na \
| --program-transform-n | --program-transform- \
| --program-transform | --program-transfor \
| --program-transfo | --program-transf \
| --program-trans | --program-tran \
| --progr-tra | --program-tr | --program-t)
  ac_prev=program_transform_name ;;
-program-transform-name=* | --program-transform-name=* \
| --program-transform-nam=* | --program-transform-na=* \
| --program-transform-n=* | --program-transform-=* \
| --program-transform=* | --program-transfor=* \
| --program-transfo=* | --program-transf=* \
| --program-trans=* | --program-tran=* \
| --progr-tra=* | --program-tr=* | --program-t*)
  program_transform_name=$ac_optarg ;;

-pdfdir | --pdfdir | --pdfdi | --pdfd | --pdf | --pd)
  ac_prev=pdfdir ;;
-pdfdir=* | --pdfdir=* | --pdfdi=* | --pdfd=* | --pdf=* | --pd*)
  pdfdir=$ac_optarg ;;

-psmdir | --psmdir | --psdi | --psd | --ps)
  ac_prev=psmdir ;;
-psmdir=* | --psmdir=* | --psdi=* | --psd=* | --ps*)
  psmdir=$ac_optarg ;;

-q | -quiet | --quiet | --quie | --qui | --qu | --q \
| -silent | --silent | --silen | --sile | --sil)
  silent=yes ;;

-runstatedir | --runstatedir | --runstatedi | --runstated \
| --runstate | --runstat | --runsta | --runst | --runs \
| --run | --ru | --r)
  ac_prev=runstatedir ;;
-runstatedir=* | --runstatedir=* | --runstatedi=* | --runstated=* \
| --runstate=* | --runstat=* | --runsta=* | --runst=* | --runs=* \
| --run=* | --ru=* | --r*)
  runstatedir=$ac_optarg ;;
```

```

-sbindir | --sbindir | --sbindi | --sbind | --sbin | --sbi | --sb)
  ac_prev=sbindir ;;
-sbindir=* | --sbindir=* | --sbindi=* | --sbind=* | --sbin=* \
| --sbi=* | --sb=*)
  sbindir=$ac_optarg ;;

-sharedstatedir | --sharedstatedir | --sharedstatedi \
| --sharedstated | --sharedstate | --sharedstat | --sharedsta \
| --sharedst | --shareds | --shared | --share | --shar \
| --sha | --sh)
  ac_prev=sharedstatedir ;;
-sharedstatedir=* | --sharedstatedir=* | --sharedstatedi=* \
| --sharedstated=* | --sharedstate=* | --sharedstat=* | --sharedsta=* \
| --sharedst=* | --shareds=* | --shared=* | --share=* | --shar=* \
| --sha=* | --sh=*)
  sharedstatedir=$ac_optarg ;;

-site | --site | --sit)
  ac_prev=site ;;
-site=* | --site=* | --sit=*)
  site=$ac_optarg ;;

-srcdir | --srcdir | --srcdi | --srcd | --src | --sr)
  ac_prev=srcdir ;;
-srcdir=* | --srcdir=* | --srcdi=* | --srcd=* | --src=* | --sr=*)
  srcdir=$ac_optarg ;;

-sysconfdir | --sysconfdir | --sysconfdi | --sysconfd | --sysconf \
| --syscon | --sysco | --sysc | --sys | --sy)
  ac_prev=sysconfdir ;;
-sysconfdir=* | --sysconfdir=* | --sysconfdi=* | --sysconfd=* | --sysconf=*)
| --syscon=* | --sysco=* | --sysc=* | --sys=* | --sy=*)
  sysconfdir=$ac_optarg ;;

-target | --target | --targe | --targ | --tar | --ta | --t)
  ac_prev=target_alias ;;
-target=* | --target=* | --targe=* | --targ=* | --tar=* | --ta=* | --t=*)
  target_alias=$ac_optarg ;;

-v | -verbose | --verbose | --verbos | --verbo | --verb)
  verbose=yes ;;

-version | --version | --versio | --versi | --vers | -V)
  ac_init_version=: ;;

-with-* | --with-*)
  ac_useropt=`expr "x$ac_option" : 'x-*with-\([^\=\]*\)'`  

# Reject names that are not valid shell variable names.  

  expr "$ac_useropt" : ".*[^\+\.\_\$_as_cr_alnum]" >/dev/null &&
    as_fn_error $? "invalid package name: $ac_useropt"
  ac_useropt_orig=$ac_useropt
  ac_useropt=`$as_echo "$ac_useropt" | sed 's/[^\+\.\_]/_/g'`  

  case $ac_user_opts in
    *)
      "with_$ac_useropt"
    *) ;;
      *) ac_unrecognized_opts="$ac_unrecognized_opts$ac_unrecognized_sep--with-
$ac_useropt_orig"
      ac_unrecognized_sep=', ';;
  esac

```

```

esac
eval with_ac_useropt=\$ac_optarg ;;

-without-* | --without-*)
ac_useropt=`expr "x$ac_option" : 'x-*without-\(.*\)'`  

# Reject names that are not valid shell variable names.
expr "x$ac_useropt" : ".*[^\-$as_cr_alnum]" >/dev/null &&
  as_fn_error $? "invalid package name: $ac_useropt"
ac_useropt_orig=$ac_useropt
ac_useropt=`$as_echo "$ac_useropt" | sed 's/[+-.]/_/g'`  

case $ac_user_opts in
  *)
"with_$ac_useropt"
*) ;;
  *) ac_unrecognized_opts="$ac_unrecognized_opts$ac_unrecognized_sep--without-
$ac_useropt_orig"
    ac_unrecognized_sep=', ';;
esac
eval with_ac_useropt=no ;;

--)  

# Obsolete; use --with-x.
with_x=yes ;;

-x-includes | --x-includes | --x-include | --x-includ | --x-inclu \
| --x-incl | --x-inc | --x-in | --x-i)
  ac_prev=x_includes ;;
-x-includes=* | --x-includes=* | --x-include=* | --x-includ=* | --x-inclu=* \
| --x-incl=* | --x-inc=* | --x-in=* | --x-i=*)
  x_includes=$ac_optarg ;;

-x-libraries | --x-libraries | --x-librarie | --x-librari \
| --x-librar | --x-libra | --x-libr | --x-lib | --x-li | --x-l)
  ac_prev=x_libraries ;;
-x-libraries=* | --x-libraries=* | --x-librarie=* | --x-librari=* \
| --x-librar=* | --x-libra=* | --x-libr=* | --x-lib=* | --x-li=* | --x-l=*)
  x_libraries=$ac_optarg ;;

*) as_fn_error $? "unrecognized option: \$ac_option"
Try '\$0 --help' for more information"
;;
*=*)
ac_envvar=`expr "x$ac_option" : 'x\([^\=]*\)=```
# Reject names that are not valid shell variable names.
case $ac_envvar in #(
  '' | [0-9]* | *[^$as_cr_alnum]* )
  as_fn_error $? "invalid variable name: `\$ac_envvar'" ;;
esac
eval $ac_envvar=\$ac_optarg
export $ac_envvar ;;

*)
# FIXME: should be removed in autoconf 3.0.
$as_echo "$as_me: WARNING: you should use --build, --host, --target" >&2
expr "x$ac_option" : ".*[^\-$as_cr_alnum]" >/dev/null &&
  $as_echo "$as_me: WARNING: invalid host type: $ac_option" >&2
: "${build_alias=$ac_option} ${host_alias=$ac_option} ${target_alias=$ac_option}"
;;

```

```

    esac
done

if test -n "$ac_prev"; then
  ac_option=--`echo $ac_prev | sed 's/_/-/g'`  

  as_fn_error $? "missing argument to $ac_option"
fi

if test -n "$ac_unrecognized_opts"; then
  case $enable_option_checking in
    no) ;;
    fatal) as_fn_error $? "unrecognized options: $ac_unrecognized_opts" ;;
    *)      $as_echo "$as_me: WARNING: unrecognized options: $ac_unrecognized_opts" >&2
  ;;
  esac
fi

# Check all directory arguments for consistency.
for ac_var in exec_prefix prefix bindir libexecdir datarootdir \
  datadir sysconfdir sharedstatedir localstatedir includedir \
  oldincludedir docdir infodir htmldir dvidir pdfdir psdir \
  libdir localedir mandir runstatedir
do
  eval ac_val=\${$ac_var}
  # Remove trailing slashes.
  case $ac_val in
    /*)
      ac_val=`expr "X$ac_val" : 'X\(.*[^\/\])' \| "X$ac_val" : 'X\(\.*\)'`  

      eval $ac_var=\$ac_val;;
  esac
  # Be sure to have absolute directory names.
  case $ac_val in
    [\\/$]* | ?:[:\\/]*) continue;;
    NONE | '') case $ac_var in *prefix) continue;; esac;;
  esac
  as_fn_error $? "expected an absolute directory name for --$ac_var: $ac_val"
done

# There might be people who depend on the old broken behavior: '$host'
# used to hold the argument of --host etc.
# FIXME: To remove some day.
build=$build_alias
host=$host_alias
target=$target_alias

# FIXME: To remove some day.
if test "x$host_alias" != x; then
  if test "x$build_alias" = x; then
    cross_compiling=maybe
  elif test "x$build_alias" != "x$host_alias"; then
    cross_compiling=yes
  fi
fi

ac_tool_prefix=
test -n "$host_alias" && ac_tool_prefix=$host_alias-
test "$silent" = yes && exec 6>/dev/null

```

```

ac_pwd=`pwd` && test -n "$ac_pwd" &&
ac_ls_di=`ls -di .` &&
ac_pwd_ls_di=`cd "$ac_pwd" && ls -di .` ||
  as_fn_error $? "working directory cannot be determined"
test "$ac_ls_di" = "$ac_pwd_ls_di" ||
  as_fn_error $? "pwd does not report name of working directory"

# Find the source files, if location was not specified.
if test -z "$srcdir"; then
  ac_srcdir_defaulted=yes
  # Try the directory containing this script, then the parent directory.
  ac_confdir=$as dirname -- "$as_myself" ||
$as_expr X"$as_myself" : 'X\(.*[^\]\)\//[^/][^/]*/*$' \| \
  X"$as_myself" : 'X\(\//\)[^/]' \| \
  X"$as_myself" : 'X\(\//\)$' \| \
  X"$as_myself" : 'X\(\/\)' \| . 2>/dev/null ||
$as_echo X"$as_myself" |
  sed '/^X\(.*[^\]\)\//[^/][^/]*/*$/{
    s//\1/
    q
  }
/^X\(\//\)[^/].*/{
    s//\1/
    q
  }
/^X\(\//\)$|{
    s//\1/
    q
  }
/^X\(\/\).*/{
    s//\1/
    q
  }
s/.*/./; q'` 
srcdir=$ac_confdir
if test ! -r "$srcdir/$ac_unique_file"; then
  srcdir=..
fi
else
  ac_srcdir_defaulted=no
fi
if test ! -r "$srcdir/$ac_unique_file"; then
  test "$ac_srcdir_defaulted" = yes && srcdir="$ac_confdir or .."
  as_fn_error $? "cannot find sources ($ac_unique_file) in $srcdir"
fi
ac_msg="sources are in $srcdir, but `cd $srcdir' does not work"
ac_abs_confdir=(
  cd "$srcdir" && test -r "./$ac_unique_file" || as_fn_error $? "$ac_msg"
  pwd)` 
# When building in place, set srcdir=.
if test "$ac_abs_confdir" = "$ac_pwd"; then
  srcdir=.
fi
# Remove unnecessary trailing slashes from srcdir.
# Double slashes in file names in object file debugging info
# mess up M-x gdb in Emacs.
case $srcdir in
  /*) srcdir=`expr "X$srcdir" : 'X\(.*[^\]\)\' \| "X$srcdir" : 'X\(.*\)\``;;
esac

```

```

for ac_var in $ac_precious_vars; do
  eval ac_env_${ac_var}_set=\${${ac_var}+set}
  eval ac_env_${ac_var}_value=\$\${ac_var}
  eval ac_cv_env_${ac_var}_set=\${${ac_var}+set}
  eval ac_cv_env_${ac_var}_value=\$\${ac_var}
done

#
# Report the --help message.
#
if test "$ac_init_help" = "long"; then
  # Omit some internal or obsolete options to make the List Less imposing.
  # This message is too Long to be a string in the A/UX 3.1 sh.
  cat <<ACEOF
`configure' configures Lab_05 3.0 to adapt to many kinds of systems.

Usage: $0 [OPTION]... [VAR=VALUE]...

```

To assign environment variables (e.g., CC, CFLAGS...), specify them as VAR=VALUE. See below for descriptions of some of the useful variables.

Defaults for the options are specified in brackets.

Configuration:

-h, --help	display this help and exit
--help=short	display options specific to this package
--help=recursive	display the short help of all the included packages
-V, --version	display version information and exit
-q, --quiet, --silent	do not print `checking ...' messages
--cache-file=FILE	cache test results in FILE [disabled]
-C, --config-cache	alias for `--cache-file=config.cache'
-n, --no-create	do not create output files
--srcdir=DIR	find the sources in DIR [configure dir or `..']

Installation directories:

--prefix=PREFIX	install architecture-independent files in PREFIX [\$ac_default_prefix]
--exec-prefix=EPREFIX	install architecture-dependent files in EPREFIX [PREFIX]

By default, `make install' will install all the files in `'\$ac_default_prefix/bin', `'\$ac_default_prefix/lib' etc. You can specify an installation prefix other than `'\$ac_default_prefix' using `--prefix', for instance `--prefix=\$HOME'.

For better control, use the options below.

Fine tuning of the installation directories:

--bindir=DIR	user executables [EPREFIX/bin]
--sbindir=DIR	system admin executables [EPREFIX/sbin]
--libexecdir=DIR	program executables [EPREFIX/libexec]
--sysconfdir=DIR	read-only single-machine data [PREFIX/etc]
--sharedstatedir=DIR	modifiable architecture-independent data [PREFIX/com]
--localstatedir=DIR	modifiable single-machine data [PREFIX/var]
--runstatedir=DIR	modifiable per-process data [LOCALSTATEDIR/run]
--libdir=DIR	object code libraries [EPREFIX/lib]
--includedir=DIR	C header files [PREFIX/include]
--oldincludedir=DIR	C header files for non-gcc [/usr/include]
--datarootdir=DIR	read-only arch.-independent data root [PREFIX/share]
--datadir=DIR	read-only architecture-independent data [DATAROOTDIR]

```

--infodir=DIR           info documentation [DATAROOTDIR/info]
--localedir=DIR          locale-dependent data [DATAROOTDIR/locale]
--mandir=DIR             man documentation [DATAROOTDIR/man]
--docdir=DIR             documentation root [DATAROOTDIR/doc/lab_05]
--htmldir=DIR            html documentation [DOCDIR]
--dvidir=DIR             dvi documentation [DOCDIR]
--pdfdir=DIR              pdf documentation [DOCDIR]
--psdir=DIR               ps documentation [DOCDIR]
_ACEOF

cat <<\_ACEOF

Program names:
--program-prefix=PREFIX      prepend PREFIX to installed program names
--program-suffix=SUFFIX       append SUFFIX to installed program names
--program-transform-name=PROGRAM run sed PROGRAM on installed program names
_ACEOF
fi

if test -n "$ac_init_help"; then
  case $ac_init_help in
    short | recursive ) echo "Configuration of Lab_05 3.0:";;
  esac
cat <<\_ACEOF

Optional Features:
--disable-option-checking ignore unrecognized --enable/--with options
--disable-FEATURE          do not include FEATURE (same as --enable-FEATURE=no)
--enable-FEATURE[=ARG]       include FEATURE [ARG=yes]
--enable-dependency-tracking
                           do not reject slow dependency extractors
--disable-dependency-tracking
                           speeds up one-time build
--enable-silent-rules       less verbose build output (undo: "make V=1")
--disable-silent-rules      verbose build output (undo: "make V=0")

Some influential environment variables:
CC          C compiler command
CFLAGS      C compiler flags
LDFLAGS     linker flags, e.g. -L<lib dir> if you have libraries in a
            nonstandard directory <lib dir>
LIBS        libraries to pass to the linker, e.g. -l<library>
CPPFLAGS    (Objective) C/C++ preprocessor flags, e.g. -I<include dir> if
            you have headers in a nonstandard directory <include dir>
CPP         C preprocessor

Use these variables to override the choices made by `configure' or to help
it to find libraries and programs with nonstandard names/locations.

Report bugs to <misterptits@yandex.ru>.
_ACEOF
ac_status=$?
fi

if test "$ac_init_help" = "recursive"; then
# If there are subdirs, report their specific --help.
for ac_dir in : ${ac_subdirs_all}; do test "x$ac_dir" = x: && continue
  test -d "$ac_dir" ||
  { cd "$srcdir" && ac_pwd=`pwd` && srcdir=. && test -d "$ac_dir"; } ||
  continue

```

```

ac_builddir=.

case "$ac_dir" in
.) ac_dir_suffix= ac_top_builddir_sub=. ac_top_build_prefix= ;;
*)
ac_dir_suffix=/`$as_echo "$ac_dir" | sed 's|^\.[\\/]||'`  

# A "..." for each directory in $ac_dir_suffix.
ac_top_builddir_sub=`$as_echo "$ac_dir_suffix" | sed 's|/[^\V]*|..|g;s|/||'`  

case $ac_top_builddir_sub in
"") ac_top_builddir_sub=. ac_top_build_prefix= ;;
*) ac_top_build_prefix=$ac_top_builddir_sub/ ;;
esac ;;
esac
ac_abs_top_builddir=$ac_pwd
ac_abs_builddir=$ac_pwd$ac_dir_suffix
# for backward compatibility:
ac_top_builddir=$ac_top_build_prefix

case $srcdir in
.) # We are building in place.
ac_srcdir=.
ac_top_srcdir=$ac_top_builddir_sub
ac_abs_top_srcdir=$ac_pwd ;;
[\\/]* | ?: [\\/]*) # Absolute name.
ac_srcdir=$srcdir$ac_dir_suffix;
ac_top_srcdir=$srcdir
ac_abs_top_srcdir=$srcdir ;;
*) # Relative name.
ac_srcdir=$ac_top_build_prefix$srcdir$ac_dir_suffix
ac_top_srcdir=$ac_top_build_prefix$srcdir
ac_abs_top_srcdir=$ac_pwd/$srcdir ;;
esac
ac_abs_srcdir=$ac_abs_top_srcdir$ac_dir_suffix

cd "$ac_dir" || { ac_status=$?; continue; }
# Check for guessed configure.
if test -f "$ac_srcdir/configure.gnu"; then
echo &&
$SHELL "$ac_srcdir/configure.gnu" --help=recursive
elif test -f "$ac_srcdir/configure"; then
echo &&
$SHELL "$ac_srcdir/configure" --help=recursive
else
$as_echo "$as_me: WARNING: no configuration information is in $ac_dir" >&2
fi || ac_status=$?
cd "$ac_pwd" || { ac_status=$?; break; }
done
fi

test -n "$ac_init_help" && exit $ac_status
if $ac_init_version; then
cat <<_ACEOF
Lab_05 configure 3.0
generated by GNU Autoconf 2.69

```

Copyright (C) 2012 Free Software Foundation, Inc.
This configure script is free software; the Free Software Foundation
gives unlimited permission to copy, distribute and modify it.

_ACEOF
exit

```

fi

## -----
## Autoconf initialization.
## ----- ##

# ac_fn_c_try_compile LINENO
# -----
# Try to compile conftest.$ac_ext, and return whether this succeeded.
ac_fn_c_try_compile ()
{
    as_lineno=${as_lineno-$1} as_lineno_stack=as_lineno_stack=$as_lineno_stack
    rm -f conftest.$ac_objext
    if { { ac_try="$ac_compile"
case "($ac_try" in
    *\"* | *\`* | *\\\*) ac_try_echo=\$ac_try;;
    *) ac_try_echo=$ac_try;;
esac
eval ac_try_echo="\"$as_me:${as_lineno-$LINENO}: $ac_try_echo\""
$as_echo "$ac_try_echo"; } >&5
    ($eval "$ac_compile") 2>conftest.err
    ac_status=$?
    if test -s conftest.err; then
        grep -v '^ *+' conftest.err >conftest.er1
        cat conftest.er1 >&5
        mv -f conftest.er1 conftest.err
    fi
    $as_echo "$as_me:${as_lineno-$LINENO}: \$? = $ac_status" >&5
    test $ac_status = 0; } && {
    test -z "$ac_c_werror_flag" ||
    test ! -s conftest.err
        } && test -s conftest.$ac_objext; then :
    ac_retval=0
else
    $as_echo "$as_me: failed program was:" >&5
    sed 's/^/ /' conftest.$ac_ext >&5
    ac_retval=1
fi
    eval $as_lineno_stack; ${as_lineno_stack:+:} unset as_lineno
    as_fn_set_status $ac_retval
}

# ac_fn_c_try_compile
# ac_fn_c_try_cpp LINENO
# -----
# Try to preprocess conftest.$ac_ext, and return whether this succeeded.
ac_fn_c_try_cpp ()
{
    as_lineno=${as_lineno-$1} as_lineno_stack=as_lineno_stack=$as_lineno_stack
    if { { ac_try="$ac_cpp conftest.$ac_ext"
case "($ac_try" in
    *\"* | *\`* | *\\\*) ac_try_echo=\$ac_try;;
    *) ac_try_echo=$ac_try;;
esac
eval ac_try_echo="\"$as_me:${as_lineno-$LINENO}: $ac_try_echo\""
$as_echo "$ac_try_echo"; } >&5
    ($eval "$ac_cpp conftest.$ac_ext") 2>conftest.err
    ac_status=$?
    if test -s conftest.err; then

```

```

grep -v '^ *+' conftest.err >conftest.er1
cat conftest.er1 >&5
mv -f conftest.er1 conftest.err

$as_echo "$as_me:${as_lineno-$LINENO}: \$? = $ac_status" >&5
test $ac_status = 0; } > conftest.i && {
test -z "$ac_c_preproc_warn_flag$ac_c_werror_flag" ||
test ! -s conftest.err
}; then :
ac_retval=0
else
$as_echo "$as_me: failed program was:" >&5
sed 's/^/| /' conftest.$ac_ext >&5

ac_retval=1
fi
eval $as_lineno_stack; ${as_lineno_stack:+:} unset as_lineno
as_fn_set_status $ac_retval
} # ac_fn_c_try_cpp

# ac_fn_c_check_header_mongrel LINENO HEADER VAR INCLUDES
# -----
# Tests whether HEADER exists, giving a warning if it cannot be compiled using
# the include files in INCLUDES and setting the cache variable VAR
# accordingly.
ac_fn_c_check_header_mongrel ()
{
as_lineno=${as_lineno-$1} as_lineno_stack=as_lineno_stack=$as_lineno_stack
if eval \$${3+:} false; then :
{ $as_echo "$as_me:${as_lineno-$LINENO}: checking for $2" >&5
$as_echo_n "checking for $2... " >&6; }
if eval \$${3+:} false; then :
$as_echo_n "(cached) " >&6
fi
eval ac_res=\$${3+}
{ $as_echo "$as_me:${as_lineno-$LINENO}: result: $ac_res" >&5
$as_echo "\$ac_res" >&6; }
else
# Is the header compilable?
{ $as_echo "$as_me:${as_lineno-$LINENO}: checking $2 usability" >&5
$as_echo_n "checking $2 usability... " >&6; }
cat confdefs.h - <<_ACEOF >conftest.$ac_ext
/* end confdefs.h. */
$4
#include <$2>
_AEOF
if ac_fn_c_try_compile "$LINENO"; then :
ac_header_compiler=yes
else
ac_header_compiler=no
fi
rm -f core conftest.err conftest.$ac_objext conftest.$ac_ext
{ $as_echo "$as_me:${as_lineno-$LINENO}: result: $ac_header_compiler" >&5
$as_echo "\$ac_header_compiler" >&6; }

# Is the header present?
{ $as_echo "$as_me:${as_lineno-$LINENO}: checking $2 presence" >&5
$as_echo_n "checking $2 presence... " >&6; }
cat confdefs.h - <<_ACEOF >conftest.$ac_ext

```

```

/* end confdefs.h. */
#include <$2>
_ACEOF
if ac_fn_c_try_cpp "$LINENO"; then :
  ac_header_preproc=yes
else
  ac_header_preproc=no
fi
rm -f conftest.err conftest.i conftest.$ac_ext
{ $as_echo "$as_me:${as_lineno-$LINENO}: result: $ac_header_preproc" >&5
$as_echo "$ac_header_preproc" >&6; }

# So? What about this header?
case $ac_header_compiler:$ac_header_preproc:$ac_c_preproc_warn_flag in
  yes:no: )
    { $as_echo "$as_me:${as_lineno-$LINENO}: WARNING: $2: accepted by the compiler,
  rejected by the preprocessor!" >&5
$as_echo "$as_me: WARNING: $2: accepted by the compiler, rejected by the preprocessor!" >&2; }
    { $as_echo "$as_me:${as_lineno-$LINENO}: WARNING: $2: proceeding with the
  compiler's result" >&5
$as_echo "$as_me: WARNING: $2: proceeding with the compiler's result" >&2; }
    ;;
  no:yes:* )
    { $as_echo "$as_me:${as_lineno-$LINENO}: WARNING: $2: present but cannot be
  compiled" >&5
$as_echo "$as_me: WARNING: $2: present but cannot be compiled" >&2; }
    { $as_echo "$as_me:${as_lineno-$LINENO}: WARNING: $2:      check for missing
  prerequisite headers?" >&5
$as_echo "$as_me: WARNING: $2:      check for missing prerequisite headers?" >&2; }
    { $as_echo "$as_me:${as_lineno-$LINENO}: WARNING: $2: see the Autoconf
  documentation" >&5
$as_echo "$as_me: WARNING: $2: see the Autoconf documentation" >&2; }
    { $as_echo "$as_me:${as_lineno-$LINENO}: WARNING: $2:      section \"Present But
  Cannot Be Compiled\" " >&5
$as_echo "$as_me: WARNING: $2:      section \"Present But Cannot Be Compiled\" " >&2; }
    { $as_echo "$as_me:${as_lineno-$LINENO}: WARNING: $2: proceeding with the
  compiler's result" >&5
$as_echo "$as_me: WARNING: $2: proceeding with the compiler's result" >&2; }
  ( $as_echo "## ----- ##"
  ## Report this to misterptits@yandex.ru ##
  ## ----- ##
  ) | sed "s/^/$as_me: WARNING:      /" >&2
  ;;
esac
{ $as_echo "$as_me:${as_lineno-$LINENO}: checking for $2" >&5
$as_echo_n "checking for $2... " >&6; }
if eval \$${3+:} false; then :
  $as_echo_n "(cached) " >&6
else
  eval "$3=\$ac_header_compiler"
fi
eval ac_res=\$3
{ $as_echo "$as_me:${as_lineno-$LINENO}: result: $ac_res" >&5
$as_echo "$ac_res" >&6; }
fi
eval $as_lineno_stack; ${as_lineno_stack:+:} unset as_lineno

} # ac_fn_c_check_header_mongrel

```

```

# ac_fn_c_try_run LINENO
# -----
# Try to link conftest.$ac_ext, and return whether this succeeded. Assumes
# that executables *can* be run.
ac_fn_c_try_run ()
{
    as_lineno=${as_lineno-$1} as_lineno_stack=as_lineno_stack=$as_lineno_stack
    if { { ac_try="$ac_link"
case "($ac_try" in
    *\`* | *\`* | *\`*) ac_try_echo=\$ac_try;;
    *) ac_try_echo=$ac_try;;
esac
eval ac_try_echo="\"$as_me:${as_lineno-$LINENO}: $ac_try_echo\""
$as_echo "$ac_try_echo"; } >&5
    (eval "$ac_link") 2>&5
    ac_status=$?
    $as_echo "$as_me:${as_lineno-$LINENO}: \$? = $ac_status" >&5
    test $ac_status = 0; } && { ac_try='./conftest$ac_exexec'
    { { case "($ac_try" in
        *\`* | *\`* | *\`*) ac_try_echo=\$ac_try;;
        *) ac_try_echo=$ac_try;;
esac
eval ac_try_echo="\"$as_me:${as_lineno-$LINENO}: $ac_try_echo\""
$as_echo "$ac_try_echo"; } >&5
    (eval "$ac_try") 2>&5
    ac_status=$?
    $as_echo "$as_me:${as_lineno-$LINENO}: \$? = $ac_status" >&5
    test $ac_status = 0; }; }; then :
    ac_retval=0
else
    $as_echo "$as_me: program exited with status $ac_status" >&5
    $as_echo "$as_me: failed program was:" >&5
sed 's/^/| /' conftest.$ac_ext >&5

    ac_retval=$ac_status
fi
rm -rf conftest.dSYM conftest_ipa8_conftest.oo
eval $as_lineno_stack; ${as_lineno_stack:+:} unset as_lineno
as_fn_set_status $ac_retval
} # ac_fn_c_try_run

# ac_fn_c_check_header_compile LINENO HEADER VAR INCLUDES
# -----
# Tests whether HEADER exists and can be compiled using the include files in
# INCLUDES, setting the cache variable VAR accordingly.
ac_fn_c_check_header_compile ()
{
    as_lineno=${as_lineno-$1} as_lineno_stack=as_lineno_stack=$as_lineno_stack
    { $as_echo "$as_me:${as_lineno-$LINENO}: checking for $2" >&5
$as_echo_n "checking for $2... " >&6; }
    if eval \$${3+:} false; then :
        $as_echo_n "(cached) " >&6
    else
        cat confdefs.h - <<_ACEOF >conftest.$ac_ext
/* end confdefs.h. */
$4
#include <$2>
_ACEOF
    if ac_fn_c_try_compile "$LINENO"; then :

```

```

    eval "$3=yes"
else
    eval "$3=no"
fi
rm -f core conftest.err conftest.$ac_objext conftest.$ac_ext
fi
eval ac_res=\$3
{ $as_echo "$as_me:${as_lineno-$LINENO}: result: $ac_res" >&5
$as_echo "$ac_res" >&6; }
eval ${as_lineno_stack:+:} unset as_lineno

} # ac_fn_c_check_header_compile

# ac_fn_c_check_type LINENO TYPE VAR INCLUDES
# -----
# Tests whether TYPE exists after having included INCLUDES, setting cache
# variable VAR accordingly.
ac_fn_c_check_type ()
{
    as_lineno=\${as_lineno+"\$1"} as_lineno_stack=as_lineno_stack=\$as_lineno_stack
    { $as_echo "$as_me:${as_lineno-$LINENO}: checking for $2" >&5
$as_echo_n "checking for $2... " >&6; }
if eval \$\{$3+:} false; then :
    $as_echo_n "(cached) " >&6
else
    eval "$3=no"
    cat confdefs.h - <<_ACEOF >conftest.$ac_ext
/* end confdefs.h. */
$4
int
main ()
{
if (sizeof ($2))
    return 0;
;
return 0;
}
_ACEOF
if ac_fn_c_try_compile "$LINENO"; then :
    cat confdefs.h - <<_ACEOF >conftest.$ac_ext
/* end confdefs.h. */
$4
int
main ()
{
if (sizeof ((\$2)))
    return 0;
;
return 0;
}
_ACEOF
if ac_fn_c_try_compile "$LINENO"; then :

else
    eval "$3=yes"
fi
rm -f core conftest.err conftest.$ac_objext conftest.$ac_ext
fi
rm -f core conftest.err conftest.$ac_objext conftest.$ac_ext
fi

```

```

eval ac_res=\$3
    { $as_echo "$as_me:${as_lineno-$LINENO}: result: $ac_res" >&5
$as_echo "$ac_res" >&6; }
eval $as_lineno_stack; ${as_lineno_stack:+:} unset as_lineno

} # ac_fn_c_check_type

# ac_fn_c_find_uintX_t LINENO BITS VAR
# -----
# Finds an unsigned integer type with width BITS, setting cache variable VAR
# accordingly.
ac_fn_c_find_uintX_t ()
{
    as_lineno=\${as_lineno-"$1"} as_lineno_stack=as_lineno_stack=\$as_lineno_stack
    { $as_echo "$as_me:${as_lineno-$LINENO}: checking for uint$2_t" >&5
$as_echo_n "checking for uint$2_t... " >&6; }
if eval \$\${3+:} false; then :
    $as_echo_n "(cached) " >&6
else
    eval "\$3=no"
        # Order is important - never check a type that is potentially smaller
        # than half of the expected target width.
        for ac_type in uint$2_t 'unsigned int' 'unsigned long int' \
'unsigned long long int' 'unsigned short int' 'unsigned char'; do
            cat confdefs.h - <<_ACEOF >conftest.$ac_ext
/* end confdefs.h. */
$ac_includes_default
int
main ()
{
    static int test_array [1 - 2 * !(((\$ac_type) -1 >> (\$2 / 2 - 1)) >> (\$2 / 2 - 1) ==
3)];
    test_array [0] = 0;
    return test_array [0];

    ;
    return 0;
}
_ACEOF
if ac_fn_c_try_compile "\$LINENO"; then :
    case \$ac_type in #(
    uint$2_t) :
        eval "\$3=yes" ;;
        *) :
            eval "\$3=\$ac_type" ;;
esac
fi
rm -f core conftest.err conftest.$ac_objext conftest.$ac_ext
    if eval test \"x\$\"\$3\" = x"no"; then :

else
    break
fi
    done
fi
eval ac_res=\$3
    { $as_echo "$as_me:${as_lineno-$LINENO}: result: $ac_res" >&5
$as_echo "$ac_res" >&6; }
eval $as_lineno_stack; ${as_lineno_stack:+:} unset as_lineno

```

```

} # ac_fn_c_find_uintX_t

# ac_fn_c_check_decl LINENO SYMBOL VAR INCLUDES
# -----
# Tests whether SYMBOL is declared in INCLUDES, setting cache variable VAR
# accordingly.
ac_fn_c_check_decl ()
{
    as_lineno=${as_lineno-$1} as_lineno_stack=as_lineno_stack=$as_lineno_stack
    as_decl_name=`echo $2|sed 's/.*//'
    as_decl_use=`echo $2|sed -e 's/(// -e 's/)() 0&/' -e 's/,/ / 0& (/g'
    { $as_echo "$as_me:${as_lineno-$LINENO}: checking whether $as_decl_name is declared"
>&5
$as_echo_n "checking whether $as_decl_name is declared... " >&6; }
    if eval \$${3+:} false; then :
        $as_echo_n "(cached) " >&6
    else
        cat confdefs.h - <<_ACEOF >conftest.$ac_ext
/* end confdefs.h. */
$4
int
main ()
{
#ifndef $as_decl_name
#define __cplusplus
    (void) $as_decl_use;
#else
    (void) $as_decl_name;
#endif
#endif

    ;
    return 0;
}
_ACEOF
if ac_fn_c_try_compile "$LINENO"; then :
    eval "$3=yes"
else
    eval "$3=no"
fi
rm -f core conftest.err conftest.$ac_objext conftest.$ac_ext
fi
eval ac_res=\$3
    { $as_echo "$as_me:${as_lineno-$LINENO}: result: $ac_res" >&5
$as_echo "$ac_res" >&6; }
    eval ${as_lineno_stack:+:} unset as_lineno

} # ac_fn_c_check_decl

# ac_fn_c_try_link LINENO
# -----
# Try to link conftest.$ac_ext, and return whether this succeeded.
ac_fn_c_try_link ()
{
    as_lineno=${as_lineno-$1} as_lineno_stack=as_lineno_stack=$as_lineno_stack
    rm -f conftest.$ac_objext conftest$ac_exext
    if { { ac_try="$ac_link"
case "$ac_try" in
    *\/* | *`* | *\/*) ac_try_echo=\$ac_try;;
    *) ac_try_echo=\$ac_try;;
esac
done
}
    eval ${as_lineno_stack:+:} unset as_lineno
}

```

```

esac
eval ac_try_echo="\\"$as_me:${as_lineno-$LINENO}: $ac_try_echo\\"
$as_echo "$ac_try_echo"; } >&5
(eval "$ac_link") 2>conftest.err
ac_status=$?
if test -s conftest.err; then
  grep -v '^ *+' conftest.err >conftest.er1
  cat conftest.er1 >&5
  mv -f conftest.er1 conftest.err
fi
$as_echo "$as_me:${as_lineno-$LINENO}: \$? = $ac_status" >&5
test $ac_status = 0; } && {
test -z "$ac_c_werror_flag" ||
test ! -s conftest.err
} && test -s conftest$ac_exexec && {
test "$cross_compiling" = yes ||
test -x conftest$ac_exexec
}; then :
ac_retval=0
else
  $as_echo "$as_me: failed program was:" >&5
  sed 's/^/| /' conftest.$ac_ext >&5
ac_retval=1
fi
# Delete the IPA/IPO (Inter Procedural Analysis/Optimization) information
# created by the PGI compiler (conftest_ipa8_conftest.oo), as it would
# interfere with the next link command; also delete a directory that is
# left behind by Apple's compiler. We do this before executing the actions.
rm -rf conftest.dSYM conftest_ipa8_conftest.oo
eval $as_lineno_stack; ${as_lineno_stack:+:} unset as_lineno
as_fn_set_status $ac_retval

} # ac_fn_c_try_link

# ac_fn_c_check_func LINENO FUNC VAR
# -----
# Tests whether FUNC exists, setting the cache variable VAR accordingly
ac_fn_c_check_func ()
{
  as_lineno=${as_lineno-$1} as_lineno_stack=as_lineno_stack=$as_lineno_stack
  { $as_echo "$as_me:${as_lineno-$LINENO}: checking for $2" >&5
$as_echo_n "checking for $2... " >&6; }
  if eval \$${3+:} false; then :
    $as_echo_n "(cached) " >&6
  else
    cat confdefs.h - <<_ACEOF >conftest.$ac_ext
/* end confdefs.h. */
/* Define $2 to an innocuous variant, in case <limits.h> declares $2.
   For example, HP-UX 11i <limits.h> declares gettimeofday. */
#define $2 innocuous_$2

/* System header to define __stub macros and hopefully few prototypes,
   which can conflict with char $2 () below.
   Prefer <limits.h> to <assert.h> if __STDC__ is defined, since
   <limits.h> exists even on freestanding compilers. */
#endif __STDC__
#include <limits.h>
#else

```

```

# include <assert.h>
#endif

#undef $2

/* Override any GCC internal prototype to avoid an error.
   Use char because int might match the return type of a GCC
   builtin and then its argument prototype would still apply. */
#ifndef __cplusplus
extern "C"
#endif
char $2 ();
/* The GNU C library defines this for functions which it implements
   to always fail with ENOSYS. Some functions are actually named
   something starting with __ and the normal name is an alias. */
#if defined __stub_$2 || defined __stub__$2
choke me
#endif

int
main ()
{
return $2 ();
;
return 0;
}
_ACEOF
if ac_fn_c_try_link "$LINENO"; then :
  eval "$3=yes"
else
  eval "$3=no"
fi
rm -f core conftest.err conftest.$ac_objext \
      conftest$ac_exexec conftest.$ac_ext
fi
eval ac_res=\$\$3
{ $as_echo "$as_me:${as_lineno-$LINENO}: result: $ac_res" >&5
$as_echo "$ac_res" >&6; }
eval $as_lineno_stack; ${as_lineno_stack:+:} unset as_lineno

} # ac_fn_c_check_func
cat >config.log <<_ACEOF
This file contains any messages produced by compilers while
running configure, to aid debugging if configure makes a mistake.

```

It was created by Lab_05 \$as_me 3.0, which was
generated by GNU Autoconf 2.69. Invocation command line was

```

$ $0 $@

_ACEOF
exec 5>>config.log
{
cat <<_ASUNAME
## ----- ##
## Platform. ##
## ----- ##

hostname = `hostname || uname -n) 2>/dev/null | sed 1q`  

uname -m = `(uname -m) 2>/dev/null || echo unknown`
```

```
uname -r = `uname -r) 2>/dev/null || echo unknown`  
uname -s = `uname -s) 2>/dev/null || echo unknown`  
uname -v = `uname -v) 2>/dev/null || echo unknown`  
  
/usr/bin/uname -p = `(/usr/bin/uname -p) 2>/dev/null || echo unknown`  
/bin/uname -X      = `(/bin/uname -X) 2>/dev/null      || echo unknown`  
  
/bin/arch          = `(/bin/arch) 2>/dev/null          || echo unknown`  
/usr/bin/arch -k    = `(/usr/bin/arch -k) 2>/dev/null    || echo unknown`  
/usr/convex/getsysinfo = `(/usr/convex/getsysinfo) 2>/dev/null || echo unknown`  
/usr/bin/hostinfo   = `(/usr/bin/hostinfo) 2>/dev/null   || echo unknown`  
/bin/machine        = `(/bin/machine) 2>/dev/null        || echo unknown`  
/usr/bin/oslevel    = `(/usr/bin/oslevel) 2>/dev/null    || echo unknown`  
/bin/universe       = `(/bin/universe) 2>/dev/null       || echo unknown`
```

_ASUNAME

```
as_save_IFS=$IFS; IFS=$PATH_SEPARATOR
for as_dir in $PATH
do
  IFS=$as_save_IFS
  test -z "$as_dir" && as_dir=.
  $as_echo "PATH: $as_dir"
done
IFS=$as_save_IFS
} >&5
```

```
cat >&5 <<_ACEOF  
  
## ----- ##  
## Core tests. ##  
## ##
```

ACEOF

```

1) as_fn_append ac_configure_args0 "$ac_arg" ;;
2)
    as_fn_append ac_configure_args1 "$ac_arg"
    if test $ac_must_keep_next = true; then
ac_must_keep_next=false # Got value, back to normal.
    else
case $ac_arg in
*=* | --config-cache | -C | -disable-* | --disable-* \
| -enable-* | --enable-* | -gas | --g* | -hfp | --nf* \
| -q | -quiet | --q* | -silent | --sil* | -v | -verb* \
| -with-* | --with-* | -without-* | --without-* | --x)
    case "$ac_configure_args0" in
        "$ac_configure_args1"** '$ac_arg' ** ) continue ;;
    esac
;;
-* ) ac_must_keep_next=true ;;
esac
fi
as_fn_append ac_configure_args "$ac_arg"
;;
esac
done
done
{ ac_configure_args0=; unset ac_configure_args0;}
{ ac_configure_args1=; unset ac_configure_args1;}

# When interrupted or exit'd, cleanup temporary files, and complete
# config.log. We remove comments because anyway the quotes in there
# would cause problems or look ugly.
# WARNING: Use '\' to represent an apostrophe within the trap.
# WARNING: Do not start the trap code with a newline, due to a FreeBSD 4.0 bug.
trap 'exit_status=$?
# Save into config.log some information that might help in debugging.
{
    echo

    $as_echo "## ----- ##
## Cache variables. ##
## ----- ##"
    echo
    # The following way of writing the cache mishandles newlines in values,
(
    for ac_var in `$(set) 2>&1 | sed -n '\''s/^\\([a-zA-Z_][a-zA-Z0-9_]*\\)=.*\\1/p'\''` ; do
        eval ac_val=\${$ac_var}
        case $ac_val in
        *${as_nl}*)
            case $ac_var in
            *_cv_*) { $as_echo "$as_me:${as_lineno-$LINENO}: WARNING: cache variable $ac_var contains a newline" >&5
$as_echo "$as_me: WARNING: cache variable $ac_var contains a newline" >&2;} ;;
            esac
            case $ac_var in
            _ | IFS | ${as_nl}) ;#
            BASH_ARGV | BASH_SOURCE) eval $ac_var= ;#
            *) { eval $ac_var=; unset $ac_var;} ;;
            esac ;;
        esac
    done
    $(set) 2>&1 |
        case ${as_nl}`(ac_space='\\' ' \\'; set) 2>&1` in

```



```

    trap 'ac_signal="$ac_signal'; as_fn_exit 1' $ac_signal
done
ac_signal=0

# confdefs.h avoids OS command line length limits that DEFS can exceed.
rm -f -r conftest* confdefs.h

$as_echo /* confdefs.h */ > confdefs.h

# Predefined preprocessor variables.

cat >>confdefs.h <<_ACEOF
#define PACKAGE_NAME "$PACKAGE_NAME"
_ACEOF

cat >>confdefs.h <<_ACEOF
#define PACKAGE_TARNAME "$PACKAGE_TARNAME"
_ACEOF

cat >>confdefs.h <<_ACEOF
#define PACKAGE_VERSION "$PACKAGE_VERSION"
_ACEOF

cat >>confdefs.h <<_ACEOF
#define PACKAGE_STRING "$PACKAGE_STRING"
_ACEOF

cat >>confdefs.h <<_ACEOF
#define PACKAGE_BUGREPORT "$PACKAGE_BUGREPORT"
_ACEOF

cat >>confdefs.h <<_ACEOF
#define PACKAGE_URL "$PACKAGE_URL"
_ACEOF

# Let the site file select an alternate cache file if it wants to.
# Prefer an explicitly selected file to automatically selected ones.
ac_site_file1=NONE
ac_site_file2=NONE
if test -n "$CONFIG_SITE"; then
# We do not want a PATH search for config.site.
case $CONFIG_SITE in
  -*) ac_site_file1=./$CONFIG_SITE;;
  /*) ac_site_file1=$CONFIG_SITE;;
  *) ac_site_file1=./$CONFIG_SITE;;
esac
elif test "x$prefix" != xNONE; then
  ac_site_file1=$prefix/share/config.site
  ac_site_file2=$prefix/etc/config.site
else
  ac_site_file1=$ac_default_prefix/share/config.site
  ac_site_file2=$ac_default_prefix/etc/config.site
fi
for ac_site_file in "$ac_site_file1" "$ac_site_file2"
do
  test "x$ac_site_file" = xNONE && continue
  if test /dev/null != "$ac_site_file" && test -r "$ac_site_file"; then
    { $as_echo "$as_me:${as_lineno-$LINENO}: loading site script $ac_site_file" >&5
$as_echo "$as_me: loading site script $ac_site_file" >&6;}

```

```

    sed 's/^/| /' "$ac_site_file" >&5
    . "$ac_site_file" \
    || { { $as_echo "$as_me:${as_lineno-$LINENO}: error: in \`$ac_pwd':"
$as_echo "$as_me: error: in \`$ac_pwd':"
as_fn_error $? "failed to load site script $ac_site_file
See '\`config.log' for more details" "$LINENO" 5; }
    fi
done

if test -r "$cache_file"; then
# Some versions of bash will fail to source /dev/null (special files
# actually), so we avoid doing that. DJGPP emulates it as a regular file.
if test /dev/null != "$cache_file" && test -f "$cache_file"; then
{ $as_echo "$as_me:${as_lineno-$LINENO}: loading cache $cache_file" >&5
$as_echo "$as_me: loading cache $cache_file" >&6;}
case $cache_file in
  [\\/]*/[?:[\\/]*) . "$cache_file";;
  *) . "./$cache_file";;
esac
fi
else
{ $as_echo "$as_me:${as_lineno-$LINENO}: creating cache $cache_file" >&5
$as_echo "$as_me: creating cache $cache_file" >&6;}
>$cache_file
fi

# Check that the precious variables saved in the cache have kept the same
# value.
ac_cache_corrupted=false
for ac_var in $ac_precious_vars; do
eval ac_old_set=\$ac_cv_env_${ac_var}_set
eval ac_new_set=\$ac_env_${ac_var}_set
eval ac_old_val=\$ac_cv_env_${ac_var}_value
eval ac_new_val=\$ac_env_${ac_var}_value
case $ac_old_set,$ac_new_set in
  set,)
    { $as_echo "$as_me:${as_lineno-$LINENO}: error: \`$ac_var' was set to
`$ac_old_val' in the previous run" >&5
$as_echo "$as_me: error: \`$ac_var' was set to `$ac_old_val' in the previous run"
>&2;}
    ac_cache_corrupted=: ;;
  ,set)
    { $as_echo "$as_me:${as_lineno-$LINENO}: error: \`$ac_var' was not set in the
previous run" >&5
$as_echo "$as_me: error: \`$ac_var' was not set in the previous run" >&2;}
    ac_cache_corrupted=: ;;
  ,);;
  *)
    if test "x$ac_old_val" != "x$ac_new_val"; then
# differences in whitespace do not lead to failure.
    ac_old_val_w=`echo x $ac_old_val`
    ac_new_val_w=`echo x $ac_new_val`
    if test "$ac_old_val_w" != "$ac_new_val_w"; then
      { $as_echo "$as_me:${as_lineno-$LINENO}: error: \`$ac_var' has changed since the
previous run:" >&5
$as_echo "$as_me: error: \`$ac_var' has changed since the previous run:" >&2;}
      ac_cache_corrupted=:
    else
      { $as_echo "$as_me:${as_lineno-$LINENO}: warning: ignoring whitespace changes in
`$ac_var' since the previous run:" >&5

```



```

else
  if test -n "$CC"; then
    ac_cv_prog_CC="$CC" # Let the user override the test.
  else
as_save_IFS=$IFS; IFS=$PATH_SEPARATOR
for as_dir in $PATH
do
  IFS=$as_save_IFS
  test -z "$as_dir" && as_dir=.
  for ac_exec_ext in '' $ac_executable_extensions; do
    if as_fn_executable_p "$as_dir/$ac_word$ac_exec_ext"; then
      ac_cv_prog_CC="${ac_tool_prefix}gcc"
      $as_echo "$as_me:${as_lineno-$LINENO}: found $as_dir/$ac_word$ac_exec_ext" >&5
      break 2
    fi
  done
done
IFS=$as_save_IFS

fi
fi
CC=$ac_cv_prog_CC
if test -n "$CC"; then
  { $as_echo "$as_me:${as_lineno-$LINENO}: result: $CC" >&5
$as_echo "$CC" >&6; }
else
  { $as_echo "$as_me:${as_lineno-$LINENO}: result: no" >&5
$as_echo "no" >&6; }
fi

fi
if test -z "$ac_cv_prog_CC"; then
  ac_ct_CC=$CC
  # Extract the first word of "gcc", so it can be a program name with args.
  set dummy gcc; ac_word=$2
  { $as_echo "$as_me:${as_lineno-$LINENO}: checking for $ac_word" >&5
$as_echo_n "checking for $ac_word... " >&6; }
  if ${ac_cv_prog_ac_ct_CC+:} false; then :
    $as_echo_n "(cached) " >&6
  else
    if test -n "$ac_ct_CC"; then
      ac_cv_prog_ac_ct_CC="$ac_ct_CC" # Let the user override the test.
    else
as_save_IFS=$IFS; IFS=$PATH_SEPARATOR
for as_dir in $PATH
do
  IFS=$as_save_IFS
  test -z "$as_dir" && as_dir=.
  for ac_exec_ext in '' $ac_executable_extensions; do
    if as_fn_executable_p "$as_dir/$ac_word$ac_exec_ext"; then
      ac_cv_prog_ac_ct_CC="gcc"
      $as_echo "$as_me:${as_lineno-$LINENO}: found $as_dir/$ac_word$ac_exec_ext" >&5
      break 2
    fi
  done
done
done
IFS=$as_save_IFS

fi

```

```

    fi
    ac_ct_CC=$ac_cv_prog_ac_ct_CC
    if test -n "$ac_ct_CC"; then
        { $as_echo "$as_me:${{as_lineno-$LINENO}}: result: $ac_ct_CC" >&5
$as_echo "$ac_ct_CC" >&6; }
    else
        { $as_echo "$as_me:${{as_lineno-$LINENO}}: result: no" >&5
$as_echo "no" >&6; }
    fi

    if test "x$ac_ct_CC" = x; then
        CC=""
    else
        case $cross_compiling:$ac_tool_warned in
yes:)
{ $as_echo "$as_me:${{as_lineno-$LINENO}}: WARNING: using cross tools not prefixed with
host triplet" >&5
$as_echo "$as_me: WARNING: using cross tools not prefixed with host triplet" >&2;}
ac_tool_warned=yes ;;
esac
        CC=$ac_ct_CC
    fi
else
    CC="$ac_cv_prog_CC"
fi

if test -z "$CC"; then
    if test -n "$ac_tool_prefix"; then
        # Extract the first word of "${ac_tool_prefix}cc", so it can be a program name with
args.
        set dummy ${ac_tool_prefix}cc; ac_word=$2
        { $as_echo "$as_me:${{as_lineno-$LINENO}}: checking for $ac_word" >&5
$as_echo_n "checking for $ac_word... " >&6; }
        if ${ac_cv_prog_CC+:} false; then :
            $as_echo_n "(cached) " >&6
        else
            if test -n "$CC"; then
                ac_cv_prog_CC="$CC" # Let the user override the test.
            else
                as_save_IFS=$IFS; IFS=$PATH_SEPARATOR
                for as_dir in $PATH
                do
                    IFS=$as_save_IFS
                    test -z "$as_dir" && as_dir=.
                    for ac_exec_ext in '' ${ac_executable_extensions}; do
                        if as_fn_executable_p "$as_dir/$ac_word$ac_exec_ext"; then
                            ac_cv_prog_CC="${ac_tool_prefix}cc"
                            $as_echo "$as_me:${{as_lineno-$LINENO}}: found $as_dir/$ac_word$ac_exec_ext" >&5
                            break 2
                        fi
                done
            done
            IFS=$as_save_IFS
        fi
    fi
    CC=$ac_cv_prog_CC
    if test -n "$CC"; then
        { $as_echo "$as_me:${{as_lineno-$LINENO}}: result: $CC" >&5
$as_echo "$CC" >&6; }
    fi

```

```

else
{ $as_echo "$as_me:${as_lineno-$LINENO}: result: no" >&5
$as_echo "no" >&6; }
fi

fi
fi
if test -z "$CC"; then
# Extract the first word of "cc", so it can be a program name with args.
set dummy cc; ac_word=$2
{ $as_echo "$as_me:${as_lineno-$LINENO}: checking for $ac_word" >&5
$as_echo_n "checking for $ac_word... " >&6; }
if ${ac_cv_prog_CC+:} false; then :
$as_echo_n "(cached) " >&6
else
if test -n "$CC"; then
ac_cv_prog_CC="$CC" # Let the user override the test.
else
ac_prog_rejected=no
as_save_IFS=$IFS; IFS=$PATH_SEPARATOR
for as_dir in $PATH
do
IFS=$as_save_IFS
test -z "$as_dir" && as_dir=.
for ac_exec_ext in '' $ac_executable_extensions; do
if as_fn_executable_p "$as_dir/$ac_word$ac_exec_ext"; then
if test "$as_dir/$ac_word$ac_exec_ext" = "/usr/ucb/cc"; then
ac_prog_rejected=yes
continue
fi
ac_cv_prog_CC="cc"
$as_echo "$as_me:${as_lineno-$LINENO}: found $as_dir/$ac_word$ac_exec_ext" >&5
break 2
fi
done
done
IFS=$as_save_IFS

if test $ac_prog_rejected = yes; then
# We found a bogon in the path, so make sure we never use it.
set dummy $ac_cv_prog_CC
shift
if test $# != 0; then
# We chose a different compiler from the bogus one.
# However, it has the same basename, so the bogon will be chosen
# first if we set CC to just the basename; use the full file name.
shift
ac_cv_prog_CC="$as_dir/$ac_word${1+' }'${@+' }"
fi
fi
fi
fi
CC=$ac_cv_prog_CC
if test -n "$CC"; then
{ $as_echo "$as_me:${as_lineno-$LINENO}: result: $CC" >&5
$as_echo "$CC" >&6; }
else
{ $as_echo "$as_me:${as_lineno-$LINENO}: result: no" >&5
$as_echo "no" >&6; }

```

```

fi

fi
if test -z "$CC"; then
  if test -n "$ac_tool_prefix"; then
    for ac_prog in cl.exe
    do
      # Extract the first word of "$ac_tool_prefix$ac_prog", so it can be a program name
      # with args.
      set dummy $ac_tool_prefix$ac_prog; ac_word=$2
      { $as_echo "$as_me:${as_lineno-$LINENO}: checking for $ac_word" >&5
      $as_echo_n "checking for $ac_word... " >&6; }
      if ${ac_cv_prog_CC+:} false; then :
        $as_echo_n "(cached) " >&6
      else
        if test -n "$CC"; then
          ac_cv_prog_CC="$CC" # Let the user override the test.
        else
          as_save_IFS=$IFS; IFS=$PATH_SEPARATOR
          for as_dir in $PATH
          do
            IFS=$as_save_IFS
            test -z "$as_dir" && as_dir=.
            for ac_exec_ext in '' $ac_executable_extensions; do
              if as_fn_executable_p "$as_dir/$ac_word$ac_exec_ext"; then
                ac_cv_prog_CC="$ac_tool_prefix$ac_prog"
                $as_echo "$as_me:${as_lineno-$LINENO}: found $as_dir/$ac_word$ac_exec_ext" >&5
                break 2
              fi
            done
            done
          IFS=$as_save_IFS
        fi
      fi
      CC=$ac_cv_prog_CC
      if test -n "$CC"; then
        { $as_echo "$as_me:${as_lineno-$LINENO}: result: $CC" >&5
        $as_echo "$CC" >&6; }
      else
        { $as_echo "$as_me:${as_lineno-$LINENO}: result: no" >&5
        $as_echo "no" >&6; }
      fi

      test -n "$CC" && break
    done
  fi
  if test -z "$CC"; then
    ac_ct_CC=$CC
    for ac_prog in cl.exe
    do
      # Extract the first word of "$ac_prog", so it can be a program name with args.
      set dummy $ac_prog; ac_word=$2
      { $as_echo "$as_me:${as_lineno-$LINENO}: checking for $ac_word" >&5
      $as_echo_n "checking for $ac_word... " >&6; }
      if ${ac_cv_prog_ac_ct_CC+:} false; then :
        $as_echo_n "(cached) " >&6
      else

```

```

    if test -n "$ac_ct_CC"; then
      ac_cv_prog_ac_ct_CC="$ac_ct_CC" # Let the user override the test.
    else
      as_save_IFS=$IFS; IFS=$PATH_SEPARATOR
      for as_dir in $PATH
      do
        IFS=$as_save_IFS
        test -z "$as_dir" && as_dir=.
        for ac_exec_ext in '' $ac_executable_extensions; do
          if as_fn_executable_p "$as_dir/$ac_word$ac_exec_ext"; then
            ac_cv_prog_ac_ct_CC="$ac_prog"
            $as_echo "$as_me:${{as_lineno-$LINENO}}: found $as_dir/$ac_word$ac_exec_ext" >&5
            break 2
          fi
        done
        done
      IFS=$as_save_IFS
    fi
    fi
  ac_ct_CC=$ac_cv_prog_ac_ct_CC
  if test -n "$ac_ct_CC"; then
    { $as_echo "$as_me:${{as_lineno-$LINENO}}: result: $ac_ct_CC" >&5
    $as_echo "$ac_ct_CC" >&6; }
  else
    { $as_echo "$as_me:${{as_lineno-$LINENO}}: result: no" >&5
    $as_echo "no" >&6; }
  fi

  test -n "$ac_ct_CC" && break
done

if test "x$ac_ct_CC" = x; then
  CC=""
else
  case $cross_compiling:$ac_tool_warned in
yes:)
{ $as_echo "$as_me:${{as_lineno-$LINENO}}: WARNING: using cross tools not prefixed with
host triplet" >&5
$as_echo "$as_me: WARNING: using cross tools not prefixed with host triplet" >&2;}
ac_tool_warned=yes ;;
esac
  CC=$ac_ct_CC
fi
fi

fi

test -z "$CC" && { { $as_echo "$as_me:${{as_lineno-$LINENO}}: error: in \`$ac_pwd':"
$as_echo "$as_me: error: in \`$ac_pwd':"
as_fn_error $? "no acceptable C compiler found in \$PATH
See '\`config.log' for more details" "$LINENO" 5; }

# Provide some information about the compiler.
$as_echo "$as_me:${{as_lineno-$LINENO}}: checking for C compiler version" >&5
set X $ac_compile
ac_compiler=$2
for ac_option in --version -v -V -qversion; do

```

```

{ { ac_try="$ac_compiler $ac_option >&5"
case "($ac_try" in
  *\/* | *\`* | *\\\*) ac_try_echo=\$ac_try;;
  *) ac_try_echo=$ac_try;;
esac
eval ac_try_echo="\\"$as_me:${as_lineno-$LINENO}: $ac_try_echo\""
$as_echo "$ac_try_echo"; } >&5
(eval "$ac_compiler $ac_option >&5") 2>conftest.err
ac_status=$?
if test -s conftest.err; then
  sed '10a\
... rest of stderr output deleted ...
10q' conftest.err >conftest.er1
  cat conftest.er1 >&5
fi
rm -f conftest.er1 conftest.err
$as_echo "$as_me:${as_lineno-$LINENO}: \$? = $ac_status" >&5
test $ac_status = 0; }
done

cat confdefs.h - <<_ACEOF >conftest.$ac_ext
/* end confdefs.h. */

int
main ()
{
  ;
  return 0;
}
_ACEOF
ac_clean_files_save=$ac_clean_files
ac_clean_files="$ac_clean_files a.out a.out.dSYM a.exe b.out"
# Try to create an executable without -o first, disregard a.out.
# It will help us diagnose broken compilers, and finding out an intuition
# of exext.
{ $as_echo "$as_me:${as_lineno-$LINENO}: checking whether the C compiler works" >&5
$as_echo_n "checking whether the C compiler works... " >&6; }
ac_link_default=`$as_echo "$ac_link" | sed 's/-o *conftest[^ ]*/'` 

# The possible output files:
ac_files="a.out conftest.exe conftest a.exe a_out.exe b.out conftest.*"

ac_rmfiles=
for ac_file in $ac_files
do
  case $ac_file in
    *.${ac_ext} | *.xcoff | *.tds | *.d | *.pdb | *.xSYM | *.bb | *.bbg | *.map | *.inf |
*.dSYM | *.o | *.obj ) ;;
    * ) ac_rmfiles="$ac_rmfiles $ac_file";;
  esac
done
rm -f $ac_rmfiles

if { { ac_try="$ac_link_default"
case "($ac_try" in
  *\/* | *\`* | *\\\*) ac_try_echo=\$ac_try;;
  *) ac_try_echo=$ac_try;;
esac
eval ac_try_echo="\\"$as_me:${as_lineno-$LINENO}: $ac_try_echo\""

```

```

$as_echo "$ac_try_echo"; } >&5
(eval "$ac_link_default") 2>&5
ac_status=$?
$as_echo "$as_me:${as_lineno-$LINENO}: \$? = $ac_status" >&5
test $ac_status = 0; }; then :
# Autoconf-2.13 could set the ac_cv_exeext variable to `no'.
# So ignore a value of `no', otherwise this would lead to `EXEEXT = no'
# in a Makefile. We should not override ac_cv_exeext if it was cached,
# so that the user can short-circuit this test for compilers unknown to
# Autoconf.
for ac_file in $ac_files ''
do
  test -f "$ac_file" || continue
  case $ac_file in
    *.${ac_ext} | *.xcoff | *.tds | *.d | *.pdb | *.xSYM | *.bb | *.bbg | *.map | *.inf |
    *.dSYM | *.o | *.obj )
    ;;
    [ab].out )
  # We found the default executable, but exeext=''' is most
  # certainly right.
  break;;
  *.*)
  if test "${ac_cv_exeext+set}" = set && test "$ac_cv_exeext" != no;
  then :; else
    ac_cv_exeext=`expr "$ac_file" : '[^.]*\(\..*\)`'
  fi
  # We set ac_cv_exeext here because the later test for it is not
  # safe: cross compilers may not add the suffix if given an '-o'
  # argument, so we may need to know it at that point already.
  # Even if this section looks crufty: it has the advantage of
  # actually working.
  break;;
  * )
  break;;
  esac
done
test "$ac_cv_exeext" = no && ac_cv_exeext=

else
  ac_file=''
fi
if test -z "$ac_file"; then :
{ $as_echo "$as_me:${as_lineno-$LINENO}: result: no" >&5
$as_echo "no" >&6; }
$as_echo "$as_me: failed program was:" >&5
sed 's/^/ /' conftest.$ac_ext >&5

{ { $as_echo "$as_me:${as_lineno-$LINENO}: error: in \`$ac_pwd':" >&5
$as_echo "$as_me: error: in \`$ac_pwd':" >&2; }
as_fn_error 77 "C compiler cannot create executables
See '\`config.log' for more details" "$LINENO" 5; }
else
{ $as_echo "$as_me:${as_lineno-$LINENO}: result: yes" >&5
$as_echo "yes" >&6; }
fi
{ $as_echo "$as_me:${as_lineno-$LINENO}: checking for C compiler default output file
name" >&5
$as_echo_n "checking for C compiler default output file name... " >&6; }
{ $as_echo "$as_me:${as_lineno-$LINENO}: result: $ac_file" >&5
$as_echo "$ac_file" >&6; }

```

```

ac_exeext=$ac_cv_exeext

rm -f -r a.out a.out.dSYM a.exe conftest$ac_cv_exeext b.out
ac_clean_files=$ac_clean_files_save
{ $as_echo "$as_me:${as_lineno-$LINENO}: checking for suffix of executables" >&5
$as_echo_n "checking for suffix of executables... " >&6; }
if { { ac_try="$ac_link"
case "($ac_try" in
  *\/* | *\`* | *\\*) ac_try_echo=\$ac_try;;
 *) ac_try_echo=$ac_try;;
esac
eval ac_try_echo="\$as_me:${as_lineno-$LINENO}: $ac_try_echo\""
$as_echo "\$ac_try_echo"; } >&5
(eval "$ac_link") 2>&5
ac_status=$?
$as_echo "$as_me:${as_lineno-$LINENO}: \$? = $ac_status" >&5
test $ac_status = 0; }; then :
# If both `conftest.exe' and `conftest' are `present' (well, observable)
# catch `conftest.exe'. For instance with Cygwin, `ls conftest' will
# work properly (i.e., refer to `conftest.exe'), while it won't with
# `rm'.
for ac_file in conftest.exe conftest conftest.*; do
  test -f "$ac_file" || continue
  case $ac_file in
    *.ac_ext | *.xcoff | *.tds | *.d | *.pdb | *.xSYM | *.bb | *.bbg | *.map | *.inf |
*.dSYM | *.o | *.obj ) ;;
    *.* ) ac_cv_exeext=`expr "$ac_file" : '[^.]*\(\..*\)'`  

      break;;
    * ) break;;
  esac
done
else
  { { $as_echo "$as_me:${as_lineno-$LINENO}: error: in \`$ac_pwd':" >&5
$as_echo "$as_me: error: in \`$ac_pwd':" >&2; }
as_fn_error $? "cannot compute suffix of executables: cannot compile and link
See '\`config.log' for more details" "$LINENO" 5; }
fi
rm -f conftest conftest$ac_cv_exeext
{ $as_echo "$as_me:${as_lineno-$LINENO}: result: $ac_cv_exeext" >&5
$as_echo "$ac_cv_exeext" >&6; }

rm -f conftest.$ac_ext
EXEEXT=$ac_cv_exeext
ac_exeext=$EXEEXT
cat confdefs.h - <<_ACEOF >conftest.$ac_ext
/* end confdefs.h. */
#include <stdio.h>
int
main ()
{
FILE *f = fopen ("conftest.out", "w");
return ferror (f) || fclose (f) != 0;

;
return 0;
}
_ACEOF
ac_clean_files="$ac_clean_files conftest.out"
# Check that the compiler produces executables we can run. If not, either
# the compiler is broken, or we cross compile.

```

```

{ $as_echo "$as_me:${as_lineno-$LINENO}: checking whether we are cross compiling" >&5
$as_echo_n "checking whether we are cross compiling... " >&6; }
if test "$cross_compiling" != yes; then
  { { ac_try="$ac_link"
  case "($ac_try" in
  *\/* | *`* | */*) ac_try_echo=\$ac_try;;
  *) ac_try_echo=$ac_try;;
esac
eval ac_try_echo="\"$as_me:${as_lineno-$LINENO}: $ac_try_echo\""
$as_echo "$ac_try_echo"; } >&5
(eval "$ac_link") 2>&5
ac_status=$?
$as_echo "$as_me:${as_lineno-$LINENO}: \$? = $ac_status" >&5
test $ac_status = 0; }
if { { case "($ac_try" in
*\/* | *`* | */*) ac_try_echo=\$ac_try;;
*) ac_try_echo=$ac_try;;
esac
eval ac_try_echo="\"$as_me:${as_lineno-$LINENO}: $ac_try_echo\""
$as_echo "$ac_try_echo"; } >&5
(eval "$ac_try") 2>&5
ac_status=$?
$as_echo "$as_me:${as_lineno-$LINENO}: \$? = $ac_status" >&5
test $ac_status = 0; }; }; then
  cross_compiling=no
else
  if test "$cross_compiling" = maybe; then
cross_compiling=yes
  else
{ { $as_echo "$as_me:${as_lineno-$LINENO}: error: in \`$ac_pwd':" >&5
$as_echo "$as_me: error: in \`$ac_pwd':" >&2; }
as_fn_error $? "cannot run C compiled programs.
If you meant to cross compile, use `--host'.
See `config.log' for more details" "$LINENO" 5; }
  fi
  fi
fi
{ $as_echo "$as_me:${as_lineno-$LINENO}: result: $cross_compiling" >&5
$as_echo "$cross_compiling" >&6; }

rm -f conftest.$ac_ext conftest$ac_cv_exexec conftest.out
ac_clean_files=$ac_clean_files_save
{ $as_echo "$as_me:${as_lineno-$LINENO}: checking for suffix of object files" >&5
$as_echo_n "checking for suffix of object files... " >&6; }
if ${ac_cv_objext+:} false; then :
$as_echo_n "(cached) " >&6
else
  cat confdefs.h - <<_ACEOF >conftest.$ac_ext
/* end confdefs.h. */
int
main ()
{
;
  return 0;
}
_AEOF
rm -f conftest.o conftest.obj

```

```

if { { ac_try="$ac_compile"
case "($ac_try" in
  *\/* | *`* | *\*) ac_try_echo=\$ac_try;;
  *) ac_try_echo=$ac_try;;
esac
eval ac_try_echo="\\"$as_me:${as_lineno-$LINENO}: $ac_try_echo\\"
$as_echo "$ac_try_echo"; } >&5
(eval "$ac_compile") 2>&5
ac_status=$?
$as_echo "$as_me:${as_lineno-$LINENO}: \$? = $ac_status" >&5
test $ac_status = 0; }; then :
for ac_file in conftest.o conftest.obj conftest.*; do
test -f "$ac_file" || continue;
case $ac_file in
  *.${ac_ext} | *.xcoff | *.tds | *.d | *.pdb | *.xSYM | *.bb | *.bbg | *.map | *.inf |
*.dSYM ) ;;
  *) ac_cv_objext=`expr "$ac_file" : '.*\.(\.*\)'`  

     break;;
esac
done
else
$as_echo "$as_me: failed program was:" >&5
sed 's/^/| /' conftest.$ac_ext >&5

{ { $as_echo "$as_me:${as_lineno-$LINENO}: error: in \`$ac_pwd':" >&5
$as_echo "$as_me: error: in \`$ac_pwd'::" >&2;}
as_fn_error $? "cannot compute suffix of object files: cannot compile
See '\`config.log' for more details" "$LINENO" 5; }
fi
rm -f conftest.$ac_cv_objext conftest.$ac_ext
fi
{ $as_echo "$as_me:${as_lineno-$LINENO}: result: $ac_cv_objext" >&5
$as_echo "$ac_cv_objext" >&6; }
OBJEXT=$ac_cv_objext
ac_objext=$OBJEXT
{ $as_echo "$as_me:${as_lineno-$LINENO}: checking whether we are using the GNU C
compiler" >&5
$as_echo_n "checking whether we are using the GNU C compiler... " >&6; }
if ${ac_cv_c_compiler_gnu+:} false; then :
$as_echo_n "(cached) " >&6
else
cat confdefs.h - <<_ACEOF >conftest.$ac_ext
/* end confdefs.h. */
/* end confdefs.h. */

int
main ()
{
#ifndef __GNUC__
choke me
#endif

;
return 0;
}
_AEOF
if ac_fn_c_try_compile "$LINENO"; then :
  ac_compiler_gnu=yes
else
  ac_compiler_gnu=no
fi

```

```

rm -f core conftest.err conftest.$ac_objext conftest.$ac_ext
ac_cv_c_compiler_gnu=$ac_compiler_gnu

fi
{ $as_echo "$as_me:${as_lineno-$LINENO}: result: $ac_cv_c_compiler_gnu" >&5
$as_echo "$ac_cv_c_compiler_gnu" >&6; }
if test $ac_compiler_gnu = yes; then
    GCC=yes
else
    GCC=
fi
ac_test_CFLAGS=${CFLAGS+set}
ac_save_CFLAGS=$CFLAGS
{ $as_echo "$as_me:${as_lineno-$LINENO}: checking whether $CC accepts -g" >&5
$as_echo_n "checking whether $CC accepts -g... " >&6; }
if ${ac_cv_prog_cc_g+:} false; then :
    $as_echo_n "(cached) " >&6
else
    ac_save_c_werror_flag=$ac_c_werror_flag
    ac_c_werror_flag=yes
    ac_cv_prog_cc_g=no
    CFLAGS="-g"
    cat confdefs.h - <<_ACEOF >conftest.$ac_ext
/* end confdefs.h. */

int
main ()
{
    ;
    return 0;
}
_ACEOF
if ac_fn_c_try_compile "$LINENO"; then :
    ac_cv_prog_cc_g=yes
else
    CFLAGS=""
    cat confdefs.h - <<_ACEOF >conftest.$ac_ext
/* end confdefs.h. */

int
main ()
{
    ;
    return 0;
}
_ACEOF
if ac_fn_c_try_compile "$LINENO"; then :

else
    ac_c_werror_flag=$ac_save_c_werror_flag
    CFLAGS="-g"
    cat confdefs.h - <<_ACEOF >conftest.$ac_ext
/* end confdefs.h. */

int
main ()
{

```

```

        ;
        return 0;
    }
ACEOF
if ac_fn_c_try_compile "$LINENO"; then :
    ac_cv_prog_cc_g=yes
fi
rm -f core conftest.err conftest.$ac_objext conftest.$ac_ext
fi
rm -f core conftest.err conftest.$ac_objext conftest.$ac_ext
fi
rm -f core conftest.err conftest.$ac_objext conftest.$ac_ext
    ac_c_werror_flag=$ac_save_c_werror_flag
fi
{ $as_echo "$as_me:${as_lineno-$LINENO}: result: $ac_cv_prog_cc_g" >&5
$as_echo "$ac_cv_prog_cc_g" >&6; }
if test "$ac_test_CFLAGS" = set; then
    CFLAGS=$ac_save_CFLAGS
elif test $ac_cv_prog_cc_g = yes; then
    if test "$GCC" = yes; then
        CFLAGS="-g -O2"
    else
        CFLAGS="-g"
    fi
else
    if test "$GCC" = yes; then
        CFLAGS="-O2"
    else
        CFLAGS=
    fi
fi
fi
{ $as_echo "$as_me:${as_lineno-$LINENO}: checking for $CC option to accept ISO C89" >&5
$as_echo_n "checking for $CC option to accept ISO C89... " >&6; }
if ${ac_cv_prog_cc_c89+:} false; then :
    $as_echo_n "(cached) " >&6
else
    ac_cv_prog_cc_c89=no
    ac_save_CC=$CC
    cat confdefs.h - <<_ACEOF >conftest.$ac_ext
/* end confdefs.h. */
#include <stdarg.h>
#include <stdio.h>
struct stat;
/* Most of the following tests are stolen from RCS 5.7's src/conf.sh. */
struct buf { int x; };
FILE * (*rcsopen) (struct buf *, struct stat *, int);
static char *e (p, i)
    char **p;
    int i;
{
    return p[i];
}
static char *f (char * (*g) (char **, int), char **p, ...)
{
    char *s;
    va_list v;
    va_start (v,p);
    s = g (p, va_arg (v,int));
    va_end (v);
    return s;
}

```

```

}

/* OSF 4.0 Compaq cc is some sort of almost-ANSI by default. It has
   function prototypes and stuff, but not '\xHH' hex character constants.
   These don't provoke an error unfortunately, instead are silently treated
   as 'x'. The following induces an error, until -std is added to get
   proper ANSI mode. Curiously '\x00'!= 'x' always comes out true, for an
   array size at least. It's necessary to write '\x00'==0 to get something
   that's true only with -std. */
int osf4_cc_array ['\x00' == 0 ? 1 : -1];

/* IBM C 6 for AIX is almost-ANSI by default, but it replaces macro parameters
   inside strings and character constants. */
#define FOO(x) 'x'
int xlc6_cc_array[FOO(a) == 'x' ? 1 : -1];

int test (int i, double x);
struct s1 {int (*f) (int a);};
struct s2 {int (*f) (double a);};
int pairnames (int, char **, FILE * (*)(struct buf *, struct stat *, int), int, int);
int argc;
char **argv;
int
main ()
{
    return f (e, argv, 0) != argv[0] || f (e, argv, 1) != argv[1];
}
return 0;
}
ACEOF
for ac_arg in '' -qlanglvl=extc89 -qlanglvl=ansi -std \
-Ae "-Aa -D_HPUX_SOURCE" "-Xc -D__EXTENSIONS__"
do
    CC="$ac_save_CC $ac_arg"
    if ac_fn_c_try_compile "$LINENO"; then :
    ac_cv_prog_cc_c89=$ac_arg
fi
rm -f core conftest.err conftest.$ac_objext
test "x$ac_cv_prog_cc_c89" != "xno" && break
done
rm -f conftest.$ac_ext
CC=$ac_save_CC

fi
# AC_CACHE_VAL
case "x$ac_cv_prog_cc_c89" in
  x)
    { $as_echo "$as_me:${as_lineno-$LINENO}: result: none needed" >&5
$as_echo "none needed" >&6; } ;;
  xno)
    { $as_echo "$as_me:${as_lineno-$LINENO}: result: unsupported" >&5
$as_echo "unsupported" >&6; } ;;
  *)
    CC="$CC $ac_cv_prog_cc_c89"
    { $as_echo "$as_me:${as_lineno-$LINENO}: result: $ac_cv_prog_cc_c89" >&5
$as_echo "$ac_cv_prog_cc_c89" >&6; } ;;
esac
if test "x$ac_cv_prog_cc_c89" != xno; then :

fi

```

```

ac_ext=c
ac_cpp='$CPP $CPPFLAGS'
ac_compile='$CC -c $CFLAGS $CPPFLAGS conftest.$ac_ext >&5'
ac_link='$CC -o conftest$ac_exexec $CFLAGS $CPPFLAGS $LDFLAGS conftest.$ac_ext $LIBS
>&5'
ac_compiler_gnu=$ac_cv_c_compiler_gnu

ac_aux_dir=
for ac_dir in "$srcdir" "$srcdir/.." "$srcdir/../../"; do
  if test -f "$ac_dir/install-sh"; then
    ac_aux_dir=$ac_dir
    ac_install_sh="$ac_aux_dir/install-sh -c"
    break
  elif test -f "$ac_dir/install.sh"; then
    ac_aux_dir=$ac_dir
    ac_install_sh="$ac_aux_dir/install.sh -c"
    break
  elif test -f "$ac_dir/shtool"; then
    ac_aux_dir=$ac_dir
    ac_install_sh="$ac_aux_dir/shtool install -c"
    break
  fi
done
if test -z "$ac_aux_dir"; then
  as_fn_error $? "cannot find install-sh, install.sh, or shtool in \"$srcdir\" \
\"$srcdir/..\" \"$srcdir/...\" \"$LINENO\" 5
fi

# These three variables are undocumented and unsupported,
# and are intended to be withdrawn in a future Autoconf release.
# They can cause serious problems if a builder's source tree is in a directory
# whose full name contains unusual characters.
ac_config_guess="$SHELL $ac_aux_dir/config.guess" # Please don't use this var.
ac_config_sub="$SHELL $ac_aux_dir/config.sub" # Please don't use this var.
ac_configure="$SHELL $ac_aux_dir/configure" # Please don't use this var.

# Expand $ac_aux_dir to an absolute path.
am_aux_dir=`cd "$ac_aux_dir" && pwd`


ac_ext=c
ac_cpp='$CPP $CPPFLAGS'
ac_compile='$CC -c $CFLAGS $CPPFLAGS conftest.$ac_ext >&5'
ac_link='$CC -o conftest$ac_exexec $CFLAGS $CPPFLAGS $LDFLAGS conftest.$ac_ext $LIBS
>&5'
ac_compiler_gnu=$ac_cv_c_compiler_gnu
{ $as_echo "$as_me:${{as_lineno-$LINENO}}: checking whether $CC understands -c and -o
together" >&5
$as_echo_n "checking whether $CC understands -c and -o together... " >&6; }
if ${am_cv_prog_cc_c_o+:} false; then :
  $as_echo_n "(cached) " >&6
else
  cat confdefs.h - <<_ACEOF >conftest.$ac_ext
/* end confdefs.h. */
}

int
main ()
{

```

```

        ;
        return 0;
    }
ACEOF
# Make sure it works both with $CC and with simple cc.
# Following AC_PROG_CC_C_0, we do the test twice because some
# compilers refuse to overwrite an existing .o file with -o,
# though they will create one.
am_cv_prog_cc_c_o=yes
for am_i in 1 2; do
    if { echo "$as_me:$LINENO: $CC -c conftest.$ac_ext -o conftest2.$ac_objext" >&5
($CC -c conftest.$ac_ext -o conftest2.$ac_objext) >&5 2>&5
ac_status=$?
echo "$as_me:$LINENO: \$? = $ac_status" >&5
(exit $ac_status); } \
        && test -f conftest2.$ac_objext; then
    : OK
else
    am_cv_prog_cc_c_o=no
    break
fi
done
rm -f core conftest*
unset am_i
fi
{ $as_echo "$as_me:${as_lineno-$LINENO}: result: $am_cv_prog_cc_c_o" >&5
$as_echo "$am_cv_prog_cc_c_o" >&6; }
if test "$am_cv_prog_cc_c_o" != yes; then
    # Losing compiler, so override with the script.
    # FIXME: It is wrong to rewrite CC.
    # But if we don't then we get into trouble of one sort or another.
    # A longer-term fix would be to have automake use am_CC in this case,
    # and then we could set am_CC="\$(top_srcdir)/compile \$(CC)"
    CC="$am_aux_dir/compile $CC"
fi
ac_ext=c
ac_cpp='$CPP $CPPFLAGS'
ac_compile='$CC -c $CFLAGS $CPPFLAGS conftest.$ac_ext >&5'
ac_link='$CC -o conftest$ac_exexec $CFLAGS $CPPFLAGS $LDFLAGS conftest.$ac_ext $LIBS
>&5'
ac_compiler_gnu=$ac_cv_c_compiler_gnu

# Checks for libraries.

# Checks for header files.

ac_ext=c
ac_cpp='$CPP $CPPFLAGS'
ac_compile='$CC -c $CFLAGS $CPPFLAGS conftest.$ac_ext >&5'
ac_link='$CC -o conftest$ac_exexec $CFLAGS $CPPFLAGS $LDFLAGS conftest.$ac_ext $LIBS
>&5'
ac_compiler_gnu=$ac_cv_c_compiler_gnu
{ $as_echo "$as_me:${as_lineno-$LINENO}: checking how to run the C preprocessor" >&5
$as_echo_n "checking how to run the C preprocessor... " >&6; }
# On Suns, sometimes $CPP names a directory.
if test -n "$CPP" && test -d "$CPP"; then
    CPP=
fi

```

```

if test -z "$CPP"; then
  if ${ac_cv_prog_CPP+:} false; then :
    $as_echo_n "(cached) " >&6
  else
    # Double quotes because CPP needs to be expanded
    for CPP in "$CC -E" "$CC -E -traditional-cpp" "/lib/cpp"
    do
      ac_preproc_ok=false
    for ac_c_preproc_warn_flag in '' yes
    do
      # Use a header file that comes with gcc, so configuring glibc
      # with a fresh cross-compiler works.
      # Prefer <limits.h> to <assert.h> if __STDC__ is defined, since
      # <limits.h> exists even on freestanding compilers.
      # On the NeXT, cc -E runs the code through the compiler's parser,
      # not just through cpp. "Syntax error" is here to catch this case.
      cat confdefs.h - <<_ACEOF >conftest.$ac_ext
/* end confdefs.h. */
#endif __STDC__
# include <limits.h>
#else
# include <assert.h>
#endif
      Syntax error
_ACEOF
if ac_fn_c_try_cpp "$LINENO"; then :

else
  # Broken: fails on valid input.
continue
fi
rm -f conftest.err conftest.i conftest.$ac_ext

# OK, works on sane cases. Now check whether nonexistent headers
# can be detected and how.
cat confdefs.h - <<_ACEOF >conftest.$ac_ext
/* end confdefs.h. */
#include <ac_nonexistent.h>
_ACEOF
if ac_fn_c_try_cpp "$LINENO"; then :
  # Broken: success on invalid input.
continue
else
  # Passes both tests.
ac_preproc_ok=:
break
fi
rm -f conftest.err conftest.i conftest.$ac_ext

done
# Because of `break', _AC_PREPROC_IFELSE's cleaning code was skipped.
rm -f conftest.i conftest.err conftest.$ac_ext
if $ac_preproc_ok; then :
  break
fi

done
ac_cv_prog_CPP=$CPP

```

fi

```

CPP=$ac_cv_prog_CPP
else
    ac_cv_prog_CPP=$CPP
fi
{ $as_echo "$as_me:${as_lineno-$LINENO}: result: $CPP" >&5
$as_echo "$CPP" >&6; }
ac_preproc_ok=false
for ac_c_preproc_warn_flag in '' yes
do
    # Use a header file that comes with gcc, so configuring glibc
    # with a fresh cross-compiler works.
    # Prefer <limits.h> to <assert.h> if __STDC__ is defined, since
    # <limits.h> exists even on freestanding compilers.
    # On the NeXT, cc -E runs the code through the compiler's parser,
    # not just through cpp. "Syntax error" is here to catch this case.
    cat confdefs.h - <<_ACEOF >conftest.$ac_ext
/* end confdefs.h. */
#ifndef __STDC__
# include <limits.h>
#else
# include <assert.h>
#endif
        Syntax error
_ACEOF
if ac_fn_c_try_cpp "$LINENO"; then :
else
    # Broken: fails on valid input.
continue
fi
rm -f conftest.err conftest.i conftest.$ac_ext

    # OK, works on sane cases. Now check whether nonexistent headers
    # can be detected and how.
    cat confdefs.h - <<_ACEOF >conftest.$ac_ext
/* end confdefs.h. */
#include <ac_nonexistent.h>
_ACEOF
if ac_fn_c_try_cpp "$LINENO"; then :
    # Broken: success on invalid input.
continue
else
    # Passes both tests.
ac_preproc_ok=:
break
fi
rm -f conftest.err conftest.i conftest.$ac_ext

done
# Because of `break', _AC_PREPROC_IFELSE's cleaning code was skipped.
rm -f conftest.i conftest.err conftest.$ac_ext
if $ac_preproc_ok; then :

else
    { { $as_echo "$as_me:${as_lineno-$LINENO}: error: in \`$ac_pwd':"
$as_echo "$as_me: error: in \`$ac_pwd':" >&2; }
as_fn_error $? "C preprocessor \"$CPP\" fails sanity check
See '\`config.log' for more details" "$LINENO" 5; }
fi

```

```

ac_ext=c
ac_cpp='$CPP $CPPFLAGS'
ac_compile='${CC} -c ${CFLAGS} ${CPPFLAGS} conftest.$ac_ext >&5'
ac_link='${CC} -o conftest$ac_exeext ${CFLAGS} ${CPPFLAGS} ${LDFLAGS} conftest.$ac_ext ${LIBS}
>&5'
ac_compiler_gnu=$ac_cv_c_compiler_gnu

{ $as_echo "$as_me:${as_lineno-$LINENO}: checking for grep that handles long lines and
-e" >&5
$as_echo_n "checking for grep that handles long lines and -e... " >&6; }
if ${ac_cv_path_GREP+:} false; then :
$as_echo_n "(cached) " >&6
else
  if test -z "$GREP"; then
    ac_path_GREP_found=false
    # Loop through the user's path and test for each of PROGNAME-LIST
    as_save_IFS=$IFS; IFS=$PATH_SEPARATOR
    for as_dir in $PATH$PATH_SEPARATOR/usr/xpg4/bin
    do
      IFS=$as_save_IFS
      test -z "$as_dir" && as_dir=.
      for ac_prog in grep ggrep; do
        for ac_exec_ext in '' ${ac_executable_extensions}; do
          ac_path_GREP="$as_dir/${ac_prog}${ac_exec_ext}"
          as_fn_executable_p "$ac_path_GREP" || continue
# Check for GNU ac_path_GREP and select it if it is found.
# Check for GNU $ac_path_GREP
        case `"$ac_path_GREP" --version 2>&1` in
        *GNU*)
          ac_cv_path_GREP="$ac_path_GREP" ac_path_GREP_found=:;;
        *)
          ac_count=0
          $as_echo_n 0123456789 >"conftest.in"
          while :
          do
            cat "conftest.in" "conftest.in" >"conftest.tmp"
            mv "conftest.tmp" "conftest.in"
            cp "conftest.in" "conftest.nl"
            $as_echo 'GREP' >> "conftest.nl"
            "$ac_path_GREP" -e 'GREP$' -e '-(cannot match)-' < "conftest.nl" >"conftest.out"
            2>/dev/null || break
            diff "conftest.out" "conftest.nl" >/dev/null 2>&1 || break
            as_fn_arith $ac_count + 1 && ac_count=$as_val
            if test $ac_count -gt ${ac_path_GREP_max-0}; then
              # Best one so far, save it but keep looking for a better one
              ac_cv_path_GREP="$ac_path_GREP"
              ac_path_GREP_max=$ac_count
            fi
            # 10*(2^10) chars as input seems more than enough
            test $ac_count -gt 10 && break
          done
          rm -f conftest.in conftest.tmp conftest.nl conftest.out;;
        esac
        $ac_path_GREP_found && break 3
      done
    done
  done
IFS=$as_save_IFS

```

```

if test -z "$ac_cv_path_GREP"; then
    as_fn_error $? "no acceptable grep could be found in
$PATH$PATH_SEPARATOR/usr/xpg4/bin" "$LINENO" 5
fi
else
    ac_cv_path_GREP=$GREP
fi

fi
{ $as_echo "$as_me:${as_lineno-$LINENO}: result: $ac_cv_path_GREP" >&5
$as_echo "$ac_cv_path_GREP" >&6; }
GREP="$ac_cv_path_GREP"

{ $as_echo "$as_me:${as_lineno-$LINENO}: checking for egrep" >&5
$as_echo_n "checking for egrep... " >&6; }
if ${ac_cv_path_EGREP+:} false; then :
    $as_echo_n "(cached) " >&6
else
    if echo a | $GREP -E '(a|b)' >/dev/null 2>&1
    then ac_cv_path_EGREP="$GREP -E"
    else
        if test -z "$EGREP"; then
ac_path_EGREP_found=false
# Loop through the user's path and test for each of PROGNAME-LIST
as_save_IFS=$IFS; IFS=$PATH_SEPARATOR
for as_dir in $PATH$PATH_SEPARATOR/usr/xpg4/bin
do
    IFS=$as_save_IFS
    test -z "$as_dir" && as_dir=.
    for ac_prog in egrep; do
        for ac_exec_ext in '' $ac_executable_extensions; do
            ac_path_EGREP="$as_dir/$ac_prog$ac_exec_ext"
            as_fn_executable_p "$ac_path_EGREP" || continue
# Check for GNU ac_path_EGREP and select it if it is found.
# Check for GNU $ac_path_EGREP
        case `"$ac_path_EGREP" --version 2>&1` in
        *GNU*)
            ac_cv_path_EGREP="$ac_path_EGREP" ac_path_EGREP_found=:;;
        *)
            ac_count=0
            $as_echo_n 0123456789 >"conftest.in"
            while :
            do
                cat "conftest.in" "conftest.in" >"conftest.tmp"
                mv "conftest.tmp" "conftest.in"
                cp "conftest.in" "conftest.nl"
                $as_echo 'EGREP' >> "conftest.nl"
                "$ac_path_EGREP" 'EGREP$' < "conftest.nl" >"conftest.out" 2>/dev/null || break
                diff "conftest.out" "conftest.nl" >/dev/null 2>&1 || break
                as_fn_arith $ac_count + 1 && ac_count=$as_val
                if test $ac_count -gt ${ac_path_EGREP_max-0}; then
                    # Best one so far, save it but keep looking for a better one
                    ac_cv_path_EGREP="$ac_path_EGREP"
                    ac_path_EGREP_max=$ac_count
                fi
                # 10*(2^10) chars as input seems more than enough
                test $ac_count -gt 10 && break
            done
            rm -f conftest.in conftest.tmp conftest.nl conftest.out;;
        esac
    done
fi

```

```

esac

        $ac_path_EGREP_found && break 3
    done
done
done
IFS=$as_save_IFS
if test -z "$ac_cv_path_EGREP"; then
    as_fn_error $? "no acceptable egrep could be found in
$PATH$PATH_SEPARATOR/usr/xpg4/bin" "$LINENO" 5
fi
else
    ac_cv_path_EGREP=$EGREP
fi

fi
fi
{ $as_echo "$as_me:${as_lineno-$LINENO}: result: $ac_cv_path_EGREP" >&5
$as_echo "$ac_cv_path_EGREP" >&6; }
EGREP="$ac_cv_path_EGREP"

{ $as_echo "$as_me:${as_lineno-$LINENO}: checking for ANSI C header files" >&5
$as_echo_n "checking for ANSI C header files... " >&6; }
if ${ac_cv_header_stdc+:} false; then :
    $as_echo_n "(cached) " >&6
else
    cat confdefs.h - <<_ACEOF >conftest.$ac_ext
/* end confdefs.h. */
#include <stdlib.h>
#include <stdarg.h>
#include <string.h>
#include <float.h>

int
main ()
{
    ;
    return 0;
}
_ACEOF
if ac_fn_c_try_compile "$LINENO"; then :
    ac_cv_header_stdc=yes
else
    ac_cv_header_stdc=no
fi
rm -f core conftest.err conftest.$ac_objext conftest.$ac_ext

if test $ac_cv_header_stdc = yes; then
    # SunOS 4.x string.h does not declare mem*, contrary to ANSI.
    cat confdefs.h - <<_ACEOF >conftest.$ac_ext
/* end confdefs.h. */
#include <string.h>

_ACEOF
if (eval "$ac_cpp conftest.$ac_ext") 2>&5 |
$EGREP "memchr" >/dev/null 2>&1; then :
else

```

```

ac_cv_header_stdc=no
fi
rm -f conftest*

fi

if test $ac_cv_header_stdc = yes; then
# ISC 2.0.2 stdlib.h does not declare free, contrary to ANSI.
cat confdefs.h - <<_ACEOF >conftest.$ac_ext
/* end confdefs.h. */
#include <stdlib.h>

_ACEOF
if (eval "$ac_cpp conftest.$ac_ext") 2>&5 |
$EGREP "free" >/dev/null 2>&1; then :

else
ac_cv_header_stdc=no
fi
rm -f conftest*

fi

if test $ac_cv_header_stdc = yes; then
# /bin/cc in Irix-4.0.5 gets non-ANSI ctype macros unless using -ansi.
if test "$cross_compiling" = yes; then :
:
else
cat confdefs.h - <<_ACEOF >conftest.$ac_ext
/* end confdefs.h. */
#include <ctype.h>
#include <stdlib.h>
#if ((' ' & 0xFF) == 0x020)
#define ISLOWER(c) ('a' <= (c) && (c) <= 'z')
#define TOUPPER(c) (ISLOWER(c) ? 'A' + ((c) - 'a') : (c))
#else
#define ISLOWER(c) \
    (('a' <= (c) && (c) <= 'i') \
     || ('j' <= (c) && (c) <= 'r') \
     || ('s' <= (c) && (c) <= 'z'))
#define TOUPPER(c) (ISLOWER(c) ? ((c) | 0x40) : (c))
#endif

#define XOR(e, f) (((e) && !(f)) || (!(e) && (f)))
int
main ()
{
    int i;
    for (i = 0; i < 256; i++)
        if (XOR (islower (i), ISLOWER (i))
        || toupper (i) != TOUPPER (i))
            return 2;
    return 0;
}
_ACEOF
if ac_fn_c_try_run "$LINENO"; then :

else
ac_cv_header_stdc=no
fi

```

```

rm -f core *.core core.conftest.* gmon.out bb.out conftest$ac_exeext \
      conftest.$ac_objext conftest.beam conftest.$ac_ext
fi

fi
fi
{ $as_echo "$as_me:${{as_lineno-$LINENO}}: result: $ac_cv_header_stdc" >&5
$as_echo "$ac_cv_header_stdc" >&6; }
if test $ac_cv_header_stdc = yes; then

$as_echo "#define STDC_HEADERS 1" >>confdefs.h

fi

# On IRIX 5.3, sys/types and inttypes.h are conflicting.
for ac_header in sys/types.h sys/stat.h stdlib.h string.h memory.h strings.h \
      inttypes.h stdint.h unistd.h
do :
  as_ac_Header=`$as_echo "ac_cv_header_$ac_header" | $as_tr_sh`  

  ac_fn_c_check_header_compile "$LINENO" "$ac_header" "$as_ac_Header"  

  "$ac_includes_default"
  "  

if eval test \"x\$\"$as_ac_Header\" = x"yes"; then :
  cat >>confdefs.h <<ACEOF  

#define `$as_echo "HAVE_$ac_header" | $as_tr_cpp` 1  

ACEOF  

fi  

done  

for ac_header in arpa/inet.h fcntl.h limits.h malloc.h netinet/in.h stddef.h stdint.h
stdlib.h string.h sys/socket.h unistd.h
do :
  as_ac_Header=`$as_echo "ac_cv_header_$ac_header" | $as_tr_sh`  

  ac_fn_c_check_header_mongrel "$LINENO" "$ac_header" "$as_ac_Header"  

  "$ac_includes_default"
  "  

if eval test \"x\$\"$as_ac_Header\" = x"yes"; then :
  cat >>confdefs.h <<ACEOF  

#define `$as_echo "HAVE_$ac_header" | $as_tr_cpp` 1  

ACEOF  

fi  

done  

# Checks for typedefs, structures, and compiler characteristics.
{ $as_echo "$as_me:${{as_lineno-$LINENO}}: checking for stdbool.h that conforms to C99" >&5
$as_echo_n "checking for stdbool.h that conforms to C99... " >&6; }
if ${ac_cv_header_stdbool_h+:} false; then :
  $as_echo_n "(cached) " >&6
else
  cat confdefs.h - <<ACEOF >conftest.$ac_ext
/* end confdefs.h. */

```

```

#include <stdbool.h>
#ifndef bool

```

```

        "error: bool is not defined"
#endif
#ifndef false
    "error: false is not defined"
#endif
#if false
    "error: false is not 0"
#endif
#ifndef true
    "error: true is not defined"
#endif
#if true != 1
    "error: true is not 1"
#endif
#ifndef __bool_true_false_are_defined
    "error: __bool_true_false_are_defined is not defined"
#endif

struct s { _Bool s: 1; _Bool t; } s;

char a[true == 1 ? 1 : -1];
char b[false == 0 ? 1 : -1];
char c[__bool_true_false_are_defined == 1 ? 1 : -1];
char d[(bool) 0.5 == true ? 1 : -1];
/* See body of main program for 'e'. */
char f[(_Bool) 0.0 == false ? 1 : -1];
char g[true];
char h[sizeof (_Bool)];
char i[sizeof s.t];
enum { j = false, k = true, l = false * true, m = true * 256 };
/* The following fails for
   HP aC++/ANSI C B3910B A.05.55 [Dec 04 2003]. */
_Bool n[m];
char o[sizeof n == m * sizeof n[0] ? 1 : -1];
char p[-1 - (_Bool) 0 < 0 && -1 - (bool) 0 < 0 ? 1 : -1];
/* Catch a bug in an HP-UX C compiler. See
   http://gcc.gnu.org/ml/gcc-patches/2003-12/msg02303.html
   http://lists.gnu.org/archive/html/bug-coreutils/2005-11/msg00161.html
*/
_Bool q = true;
_Bool *pq = &q;

int
main ()
{
    bool e = &s;
    *pq |= q;
    *pq |= ! q;
    /* Refer to every declared value, to avoid compiler optimizations. */
    return (!a + !b + !c + !d + !e + !f + !g + !h + !i + !!j + !k + !!l
           + !m + !n + !o + !p + !q + !pq);

    ;
    return 0;
}
ACEOF
if ac_fn_c_try_compile "$LINENO"; then :
  ac_cv_header_stdbool_h=yes
else

```

```

ac_cv_header_stdbool_h=no
fi
rm -f core conftest.err conftest.$ac_objext conftest.$ac_ext
fi
{ $as_echo "$as_me:${as_lineno-$LINENO}: result: $ac_cv_header_stdbool_h" >&5
$as_echo "$ac_cv_header_stdbool_h" >&6; }
    ac_fn_c_check_type "$LINENO" "_Bool" "ac_cv_type_Bool" "$ac_includes_default"
if test "x$ac_cv_type_Bool" = xyes; then :

cat >>confdefs.h <<_ACEOF
#define HAVE__BOOL 1
_ACEOF

fi

ac_fn_c_check_type "$LINENO" "size_t" "ac_cv_type_size_t" "$ac_includes_default"
if test "x$ac_cv_type_size_t" = xyes; then :

else

cat >>confdefs.h <<_ACEOF
#define size_t unsigned int
_ACEOF

fi

ac_fn_c_find_uintX_t "$LINENO" "16" "ac_cv_c_uint16_t"
case $ac_cv_c_uint16_t in #(
    no|yes) ;; #(
    *)
)

cat >>confdefs.h <<_ACEOF
#define uint16_t $ac_cv_c_uint16_t
_ACEOF
;;
esac

ac_fn_c_find_uintX_t "$LINENO" "32" "ac_cv_c_uint32_t"
case $ac_cv_c_uint32_t in #(
    no|yes) ;; #(
    *)
)

$as_echo "#define _UINT32_T 1" >>confdefs.h

cat >>confdefs.h <<_ACEOF
#define uint32_t $ac_cv_c_uint32_t
_ACEOF
;;
esac

# Checks for library functions.
for ac_header in stdlib.h
do :
    ac_fn_c_check_header_mongrel "$LINENO" "stdlib.h" "ac_cv_header_stdlib_h"
"$ac_includes_default"

```

```

if test "x$ac_cv_header_stdlib_h" = xyes; then :
  cat >>confdefs.h <<_ACEOF
#define HAVE_STDLIB_H 1
_ACEOF

fi

done

{ $as_echo "$as_me:${as_lineno-$LINENO}: checking for GNU libc compatible malloc" >&5
$as_echo_n "checking for GNU libc compatible malloc... " >&6; }
if ${ac_cv_func_malloc_0_nonnull+:} false; then :
  $as_echo_n "(cached) " >&6
else
  if test "$cross_compiling" = yes; then :
    ac_cv_func_malloc_0_nonnull=no
  else
    cat confdefs.h - <<_ACEOF >conftest.$ac_ext
/* end confdefs.h. */
#if defined STDC_HEADERS || defined HAVE_STDLIB_H
#include <stdlib.h>
#else
char *malloc ();
#endif

int
main ()
{
return ! malloc (0);
;
return 0;
}
_ACEOF
if ac_fn_c_try_run "$LINENO"; then :
  ac_cv_func_malloc_0_nonnull=yes
else
  ac_cv_func_malloc_0_nonnull=no
fi
rm -f core *.core core.conftest.* gmon.out bb.out conftest$ac_exeext \
conftest.$ac_objext conftest.beam conftest.$ac_ext
fi

fi
{ $as_echo "$as_me:${as_lineno-$LINENO}: result: $ac_cv_func_malloc_0_nonnull" >&5
$as_echo "$ac_cv_func_malloc_0_nonnull" >&6; }
if test $ac_cv_func_malloc_0_nonnull = yes; then :

$as_echo "#define HAVE_MALLOC 1" >>confdefs.h

else
$as_echo "#define HAVE_MALLOC 0" >>confdefs.h

  case " $LIBOBJS " in
*" malloc.$ac_objext "* ) ;;
*) LIBOBJS="$LIBOBJS malloc.$ac_objext"
;;
esac

```

\$as_echo "#define malloc rpl_malloc" >>confdefs.h

```


fi

for ac_header in stdlib.h
do :
  ac_fn_c_check_header_mongrel "$LINENO" "stdlib.h" "ac_cv_header_stdlib_h"
  "$ac_includes_default"
if test "x$ac_cv_header_stdlib_h" = xyes; then :
  cat >>confdefs.h <<_ACEOF
#define HAVE_STDLIB_H 1
_ACEOF

fi

done

{ $as_echo "$as_me:${as_lineno-$LINENO}: checking for GNU libc compatible realloc" >&5
$as_echo_n "checking for GNU libc compatible realloc... " >&6; }
if ${ac_cv_func_realloc_0_nonnull+:} false; then :
  $as_echo_n "(cached) " >&6
else
  if test "$cross_compiling" = yes; then :
    ac_cv_func_realloc_0_nonnull=no
  else
    cat confdefs.h - <<_ACEOF >conftest.$ac_ext
/* end confdefs.h. */
#if defined STDC_HEADERS || defined HAVE_STDLIB_H
#include <stdlib.h>
#else
char *realloc ();
#endif

int
main ()
{
return ! realloc (0, 0);
;
return 0;
}
_ACEOF
if ac_fn_c_try_run "$LINENO"; then :
  ac_cv_func_realloc_0_nonnull=yes
else
  ac_cv_func_realloc_0_nonnull=no
fi
rm -f core *.core core.conftest.* gmon.out bb.out conftest$ac_exexec \
  conftest.$ac_objext conftest.beam conftest.$ac_ext
fi

fi
{ $as_echo "$as_me:${as_lineno-$LINENO}: result: $ac_cv_func_realloc_0_nonnull" >&5
$as_echo "$ac_cv_func_realloc_0_nonnull" >&6; }
if test $ac_cv_func_realloc_0_nonnull = yes; then :

$as_echo "#define HAVE_REALLOC 1" >>confdefs.h

else
$as_echo "#define HAVE_REALLOC 0" >>confdefs.h


```

```

    case " $LIBOBJJS " in
    *"$ realloc.$ac_objext "* ) ;;
    *) LIBOBJJS="$LIBOBJJS realloc.$ac_objext"
;;
esac

$as_echo "#define realloc rpl_realloc" >>confdefs.h

fi

ac_fn_c_check_decl "$LINENO" "strerror_r" "ac_cv_have_decl_strerror_r"
$ac_includes_default
if test "x$ac_cv_have_decl_strerror_r" = xyes; then :
  ac_have_decl=1
else
  ac_have_decl=0
fi

cat >>confdefs.h <<_ACEOF
#define HAVE_DECL_STRERROR_R $ac_have_decl
_ACEOF

for ac_func in strerror_r
do :
  ac_fn_c_check_func "$LINENO" "strerror_r" "ac_cv_func_strerror_r"
if test "x$ac_cv_func_strerror_r" = xyes; then :
  cat >>confdefs.h <<_ACEOF
#define HAVE_STRERROR_R 1
_ACEOF

fi
done

{ $as_echo "$as_me:${as_lineno-$LINENO}: checking whether strerror_r returns char *"
>&5
$as_echo_n "checking whether strerror_r returns char *... " >&6; }
if ${ac_cv_func_strerror_r_char_p+:} false; then :
  $as_echo_n "(cached) " >&6
else

  ac_cv_func_strerror_r_char_p=no
  if test $ac_cv_have_decl_strerror_r = yes; then
    cat confdefs.h - <<_ACEOF >conftest.$ac_ext
/* end confdefs.h. */
$ac_includes_default
int
main ()
{
  char buf[100];
  char x = *strerror_r (0, buf, sizeof buf);
  char *p = strerror_r (0, buf, sizeof buf);
  return !p || x;

;
  return 0;
}
_ACEOF

```

```

if ac_fn_c_try_compile "$LINENO"; then :
  ac_cv_func_strerror_r_char_p=yes
fi
rm -f core conftest.err conftest.$ac_objext conftest.$ac_ext
else
  # strerror_r is not declared. Choose between
  # systems that have relatively inaccessible declarations for the
  # function. BeOS and DEC UNIX 4.0 fall in this category, but the
  # former has a strerror_r that returns char*, while the latter
  # has a strerror_r that returns `int'.
  # This test should segfault on the DEC system.
  if test "$cross_compiling" = yes; then :
  :
else
  cat confdefs.h - <<_ACEOF >conftest.$ac_ext
/* end confdefs.h. */
$ac_includes_default
  extern char *strerror_r ();
int
main ()
{
  char buf[100];
  char x = *strerror_r (0, buf, sizeof buf);
  return ! isalpha (x);
;
  return 0;
}
_ACEOF
if ac_fn_c_try_run "$LINENO"; then :
  ac_cv_func_strerror_r_char_p=yes
fi
rm -f core *.core core.conftest.* gmon.out bb.out conftest$ac_exext \
  conftest.$ac_objext conftest.beam conftest.$ac_ext
fi

fi

fi
{ $as_echo "$as_me:${as_lineno-$LINENO}: result: $ac_cv_func_strerror_r_char_p" >&5
$as_echo "$ac_cv_func_strerror_r_char_p" >&6; }
if test $ac_cv_func_strerror_r_char_p = yes; then
$as_echo "#define STRERROR_R_CHAR_P 1" >>confdefs.h

fi

for ac_func in socket strchr
do :
  as_ac_var=`$as_echo "ac_cv_func_$ac_func" | $as_tr_sh`  

  ac_fn_c_check_func "$LINENO" "$ac_func" "$as_ac_var"
  if eval test \"x\$\"$as_ac_var\"x\" = x"yes"; then :
    cat >>confdefs.h <<_ACEOF
#define `$as_echo "HAVE_$ac_func" | $as_tr_cpp` 1
_ACEOF
  fi
done

am__api_version='1.15'

```

```

# Find a good install program.  We prefer a C program (faster),
# so one script is as good as another.  But avoid the broken or
# incompatible versions:
# SysV /etc/install, /usr/sbin/install
# SunOS /usr/etc/install
# IRIX /sbin/install
# AIX /bin/install
# AmigaOS /C/install, which installs bootblocks on floppy discs
# AIX 4 /usr/bin/installbsd, which doesn't work without a -g flag
# AFS /usr/afsws/bin/install, which mishandles nonexistent args
# SVR4 /usr/ucb/install, which tries to use the nonexistent group "staff"
# OS/2's system install, which has a completely different semantic
# ./install, which can be erroneously created by make from ./install.sh.
# Reject install programs that cannot install multiple files.
{ $as_echo "$as_me:${as_lineno-$LINENO}: checking for a BSD-compatible install" >&5
$as_echo_n "checking for a BSD-compatible install... " >&6; }
if test -z "$INSTALL"; then
if ${ac_cv_path_install+:} false; then :
$as_echo_n "(cached) " >&6
else
as_save_IFS=$IFS; IFS=$PATH_SEPARATOR
for as_dir in $PATH
do
IFS=$as_save_IFS
test -z "$as_dir" && as_dir=.
# Account for people who put trailing slashes in PATH elements.
case $as_dir/ in(
./ | .// | /[cC]/* | \
/etc/* | /usr/sbin/* | /usr/etc/* | /sbin/* | /usr/afsws/bin/* | \
?:[\\/]os2[\\/]install[\\/]* | ?: [\\/]OS2[\\/]INSTALL[\\/]* | \
/usr/ucb/* ) ;;
*)
# OSF1 and SCO ODT 3.0 have their own names for install.
# Don't use installbsd from OSF since it installs stuff as root
# by default.
for ac_prog in ginstall scoinstall install; do
  for ac_exec_ext in '' $ac_executable_extensions; do
if as_fn_executable_p "$as_dir/$ac_prog$ac_exec_ext"; then
  if test $ac_prog = install &&
    grep dspmsg "$as_dir/$ac_prog$ac_exec_ext" >/dev/null 2>&1; then
      # AIX install.  It has an incompatible calling convention.
      :
elif test $ac_prog = install &&
  grep pwplus "$as_dir/$ac_prog$ac_exec_ext" >/dev/null 2>&1; then
    # program-specific install script used by HP pwplus--don't use.
    :
else
  rm -rf conftest.one conftest.two conftest.dir
  echo one > conftest.one
  echo two > conftest.two
  mkdir conftest.dir
  if "$as_dir/$ac_prog$ac_exec_ext" -c conftest.one conftest.two
" `pwd`/conftest.dir" &&
    test -s conftest.one && test -s conftest.two &&
    test -s conftest.dir/conftest.one &&
    test -s conftest.dir/conftest.two
then
  ac_cv_path_install="$as_dir/$ac_prog$ac_exec_ext -c"
  break 3

```

```

        fi
    fi
fi
done
done
;;
esac

done
IFS=$as_save_IFS

rm -rf conftest.one conftest.two conftest.dir

fi
if test "${ac_cv_path_install+set}" = set; then
    INSTALL=$ac_cv_path_install
else
    # As a last resort, use the slow shell script. Don't cache a
    # value for INSTALL within a source directory, because that will
    # break other packages using the cache if that directory is
    # removed, or if the value is a relative name.
    INSTALL=$ac_install_sh
fi
fi
{ $as_echo "$as_me:${as_lineno-$LINENO}: result: $INSTALL" >&5
$as_echo "$INSTALL" >&6; }

# Use test -z because SunOS4 sh mishandles braces in ${var-val}.
# It thinks the first close brace ends the variable substitution.
test -z "$INSTALL_PROGRAM" && INSTALL_PROGRAM='${INSTALL}'

test -z "$INSTALL_SCRIPT" && INSTALL_SCRIPT='${INSTALL}'

test -z "$INSTALL_DATA" && INSTALL_DATA='${INSTALL} -m 644'

{ $as_echo "$as_me:${as_lineno-$LINENO}: checking whether build environment is sane"
>&5
$as_echo_n "checking whether build environment is sane... " >&6; }
# Reject unsafe characters in $srcdir or the absolute working directory
# name. Accept space and tab only in the latter.
am_lf='
'
case `pwd` in
*[\\\"#\$\&\`$am_lf]*)
    as_fn_error $? "unsafe absolute working directory name" "$LINENO" 5;;
esac
case $srcdir in
*[\\\"#\$\&\`$am_lf\ \ ]*)
    as_fn_error $? "unsafe srcdir value: '$srcdir'" "$LINENO" 5;;
esac

# Do 'set' in a subshell so we don't clobber the current shell's
# arguments. Must try -L first in case configure is actually a
# symlink; some systems play weird games with the mod time of symlinks
# (eg FreeBSD returns the mod time of the symlink's containing
# directory).
if (
    am_has_slept=no
    for am_try in 1 2; do
        echo "timestamp, slept: $am_has_slept" > conftest.file

```

```

        set X `ls -Lt "$srcdir/configure" conftest.file 2> /dev/null`  

        if test "$*" = "X"; then  

# -L didn't work.  

        set X `ls -t "$srcdir/configure" conftest.file`  

        fi  

        if test "$*" != "X $srcdir/configure conftest.file" \  

&& test "$*" != "X conftest.file $srcdir/configure"; then  

# If neither matched, then we have a broken ls. This can happen  

# if, for instance, CONFIG_SHELL is bash and it inherits a  

# broken ls alias from the environment. This has actually  

# happened. Such a system could not be considered "sane".  

as_fn_error $? "ls -t appears to fail. Make sure there is not a broken  

alias in your environment" "$LINENO" 5  

        fi  

        if test "$2" = conftest.file || test $am_try -eq 2; then  

            break  

        fi  

# Just in case.  

        sleep 1  

        am_has_slept=yes  

    done  

    test "$2" = conftest.file  

)  

then  

# Ok.  

:  

else  

    as_fn_error $? "newly created file is older than distributed files!  

Check your system clock" "$LINENO" 5  

fi  

{ $as_echo "$as_me:${as_lineno-$LINENO}: result: yes" >&5  

$as_echo "yes" >&6; }  

# If we didn't sleep, we still need to ensure time stamps of config.status and  

# generated files are strictly newer.  

am_sleep_pid=  

if grep 'slept: no' conftest.file >/dev/null 2>&1; then  

( sleep 1 ) &  

am_sleep_pid=$!  

fi  

rm -f conftest.file  

test "$program_prefix" != NONE &&  

    program_transform_name="s&^&$program_prefix&;$program_transform_name"  

# Use a double $ so make ignores it.  

test "$program_suffix" != NONE &&  

    program_transform_name="s&\$&$program_suffix&;$program_transform_name"  

# Double any \ or $.  

# By default was 's,x,x', remove it if useless.  

ac_script='s/[\\$/&&/g;s;s,x,x,$//'  

program_transform_name=`$as_echo "$program_transform_name" | sed "$ac_script"``  

if test x"${MISSING+set}" != xset; then  

    case $am_aux_dir in  

    *\ * | *\ *)  

        MISSING="\${SHELL} \"\$am_aux_dir/missing\"";;  

    *)  

        MISSING="\${SHELL} \$am_aux_dir/missing";;  

    esac

```

```

    fi
    # Use eval to expand $SHELL
    if eval "$MISSING --is-lightweight"; then
        am_missing_run="$MISSING "
    else
        am_missing_run=
        { $as_echo "$as_me:${as_lineno-$LINENO}: WARNING: 'missing' script is too old or
missing" >&5
$as_echo "$as_me: WARNING: 'missing' script is too old or missing" >&2; }
    fi

    if test x"${install_sh+set}" != xset; then
        case $am_aux_dir in
        *\ * | *\ *)
            install_sh="\${SHELL} '$am_aux_dir/install-sh'" ;;
        *)
            install_sh="\${SHELL} $am_aux_dir/install-sh"
        esac
    fi

    # Installed binaries are usually stripped using 'strip' when the user
    # run "make install-strip". However 'strip' might not be the right
    # tool to use in cross-compilation environments, therefore Automake
    # will honor the 'STRIP' environment variable to overrule this program.
    if test "$cross_compiling" != no; then
        if test -n "$ac_tool_prefix"; then
            # Extract the first word of "${ac_tool_prefix}strip", so it can be a program name
            # with args.
            set dummy ${ac_tool_prefix}strip; ac_word=$2
            { $as_echo "$as_me:${as_lineno-$LINENO}: checking for $ac_word" >&5
$as_echo_n "checking for $ac_word... " >&6; }
            if ${ac_cv_prog_STRIP+:} false; then :
                $as_echo_n "(cached) " >&6
            else
                if test -n "$STRIP"; then
                    ac_cv_prog_STRIP="$STRIP" # Let the user override the test.
                else
                    as_save_IFS=$IFS; IFS=$PATH_SEPARATOR
                    for as_dir in $PATH
                    do
                        IFS=$as_save_IFS
                        test -z "$as_dir" && as_dir=.
                        for ac_exec_ext in '' $ac_executable_extensions; do
                            if as_fn_executable_p "$as_dir/$ac_word$ac_exec_ext"; then
                                ac_cv_prog_STRIP="${ac_tool_prefix}strip"
                                $as_echo "$as_me:${as_lineno-$LINENO}: found $as_dir/$ac_word$ac_exec_ext" >&5
                                break 2
                            fi
                        done
                    done
                    IFS=$as_save_IFS
                fi
            fi
            STRIP=${ac_cv_prog_STRIP}
            if test -n "$STRIP"; then
                { $as_echo "$as_me:${as_lineno-$LINENO}: result: $STRIP" >&5
$as_echo "$STRIP" >&6; }
            else
                { $as_echo "$as_me:${as_lineno-$LINENO}: result: no" >&5

```

```

$as_echo "no" >&6; }
fi

fi
if test -z "$ac_cv_prog_STRIP"; then
  ac_ct_STRIP=$STRIP
  # Extract the first word of "strip", so it can be a program name with args.
  set dummy strip; ac_word=$2
{ $as_echo "$as_me:${as_lineno-$LINENO}: checking for $ac_word" >&5
$as_echo_n "checking for $ac_word... " >&6; }
if ${ac_cv_prog_ac_ct_STRIP+:} false; then :
  $as_echo_n "(cached) " >&6
else
  if test -n "$ac_ct_STRIP"; then
    ac_cv_prog_ac_ct_STRIP="$ac_ct_STRIP" # Let the user override the test.
  else
    as_save_IFS=$IFS; IFS=$PATH_SEPARATOR
    for as_dir in $PATH
    do
      IFS=$as_save_IFS
      test -z "$as_dir" && as_dir=.
      for ac_exec_ext in '' $ac_executable_extensions; do
        if as_fn_executable_p "$as_dir/$ac_word$ac_exec_ext"; then
          ac_cv_prog_ac_ct_STRIP="strip"
          $as_echo "$as_me:${as_lineno-$LINENO}: found $as_dir/$ac_word$ac_exec_ext" >&5
          break 2
        fi
      done
      done
    IFS=$as_save_IFS
  fi
fi
ac_ct_STRIP=$ac_cv_prog_ac_ct_STRIP
if test -n "$ac_ct_STRIP"; then
  { $as_echo "$as_me:${as_lineno-$LINENO}: result: $ac_ct_STRIP" >&5
$as_echo "$ac_ct_STRIP" >&6; }
else
  { $as_echo "$as_me:${as_lineno-$LINENO}: result: no" >&5
$as_echo "no" >&6; }
fi

if test "x$ac_ct_STRIP" = x; then
  STRIP=":"
else
  case $cross_compiling:$ac_tool_warned in
yes:)
{ $as_echo "$as_me:${as_lineno-$LINENO}: WARNING: using cross tools not prefixed with
host triplet" >&5
$as_echo "$as_me: WARNING: using cross tools not prefixed with host triplet" >&2;}
ac_tool_warned=yes ;;
esac
  STRIP=$ac_ct_STRIP
fi
else
  STRIP="$ac_cv_prog_STRIP"
fi
fi

```

```

INSTALL_STRIP_PROGRAM="\${install_sh} -c -s"

{ $as_echo "$as_me:${as_lineno-$LINENO}: checking for a thread-safe mkdir -p" >&5
$as_echo_n "checking for a thread-safe mkdir -p... " >&6; }
if test -z "$MKDIR_P"; then
  if ${ac_cv_path_mkdir+:} false; then :
    $as_echo_n "(cached) " >&6
else
  as_save_IFS=$IFS; IFS=$PATH_SEPARATOR
for as_dir in $PATH$PATH_SEPARATOR/opt/sfw/bin
do
  IFS=$as_save_IFS
  test -z "$as_dir" && as_dir=
    for ac_prog in mkdir gmkdir; do
      for ac_exec_ext in '' ${ac_executable_extensions}; do
        as_fn_executable_p "$as_dir/${ac_prog}${ac_exec_ext}" || continue
        case `"$as_dir/${ac_prog}${ac_exec_ext}" --version 2>&1` in
          'mkdir (GNU coreutils)' '* | \
          'mkdir (coreutils)' '* | \
          'mkdir (fileutils)' '4.1*')
            ac_cv_path_mkdir=$as_dir/${ac_prog}${ac_exec_ext}
            break 3;;
        esac
      done
      done
    done
  IFS=$as_save_IFS
fi

test -d ./--version && rmdir ./--version
if test "${ac_cv_path_mkdir+set}" = set; then
  MKDIR_P="$ac_cv_path_mkdir -p"
else
  # As a last resort, use the slow shell script. Don't cache a
  # value for MKDIR_P within a source directory, because that will
  # break other packages using the cache if that directory is
  # removed, or if the value is a relative name.
  MKDIR_P="$ac_install_sh -d"
fi
fi
{ $as_echo "$as_me:${as_lineno-$LINENO}: result: $MKDIR_P" >&5
$as_echo "$MKDIR_P" >&6; }

for ac_prog in gawk mawk nawk awk
do
  # Extract the first word of "$ac_prog", so it can be a program name with args.
  set dummy $ac_prog; ac_word=$2
{ $as_echo "$as_me:${as_lineno-$LINENO}: checking for $ac_word" >&5
$as_echo_n "checking for $ac_word... " >&6; }
if ${ac_cv_prog_AWK+:} false; then :
  $as_echo_n "(cached) " >&6
else
  if test -n "$AWK"; then
    ac_cv_prog_AWK="$AWK" # Let the user override the test.
  else
    as_save_IFS=$IFS; IFS=$PATH_SEPARATOR
    for as_dir in $PATH
    do
      IFS=$as_save_IFS

```

```

test -z "$as_dir" && as_dir=.
for ac_exec_ext in '' $ac_executable_extensions; do
if as_fn_executable_p "$as_dir/$ac_word$ac_exec_ext"; then
  ac_cv_prog_AWK="$ac_prog"
  $as_echo "$as_me:${as_lineno-$LINENO}: found $as_dir/$ac_word$ac_exec_ext" >&5
  break 2
fi
done
done
IFS=$as_save_IFS

fi
fi
AWK=$ac_cv_prog_AWK
if test -n "$AWK"; then
  { $as_echo "$as_me:${as_lineno-$LINENO}: result: $AWK" >&5
$as_echo "$AWK" >&6; }
else
  { $as_echo "$as_me:${as_lineno-$LINENO}: result: no" >&5
$as_echo "no" >&6; }
fi

test -n "$AWK" && break
done

{ $as_echo "$as_me:${as_lineno-$LINENO}: checking whether ${MAKE-make} sets \$(MAKE)" >&5
$as_echo_n "checking whether ${MAKE-make} sets \$(MAKE)... " >&6; }
set x ${MAKE-make}
ac_make=`$as_echo "$2" | sed 's/+/p/g; s/[^a-zA-Z0-9]/_/g'`  

if eval \$${ac_cv_prog_make_${ac_make}_set+:} false; then :
  $as_echo_n "(cached) " >&6
else
  cat >conftest.make <<_\ACEOF
SHELL = /bin/sh
all:
@echo '@@@@%%=%(MAKE)=@@@%%%'
_\ACEOF
# GNU make sometimes prints "make[1]: Entering ... ", which would confuse us.
case ` ${MAKE-make} -f conftest.make 2>/dev/null` in
*@@@%%=?*=@@%%*)
  eval ac_cv_prog_make_${ac_make}_set=yes;;
*)
  eval ac_cv_prog_make_${ac_make}_set=no;;
esac
rm -f conftest.make
fi
if eval test \$${ac_cv_prog_make_${ac_make}_set = yes}; then
  { $as_echo "$as_me:${as_lineno-$LINENO}: result: yes" >&5
$as_echo "yes" >&6; }
  SET_MAKE=
else
  { $as_echo "$as_me:${as_lineno-$LINENO}: result: no" >&5
$as_echo "no" >&6; }
  SET_MAKE="MAKE=${MAKE-make}"
fi

rm -rf .tst 2>/dev/null
mkdir .tst 2>/dev/null

```

```

if test -d .tst; then
    am_leading_dot=.
else
    am_leading_dot=_  

fi
rmdir .tst 2>/dev/null

DEPDIR="${am_leading_dot}deps"

ac_config_commands="$ac_config_commands depfiles"

am_make=${MAKE-make}
cat > confinc << 'END'
am_doit:
    @echo this is the am_doit target
.PHONY: am_doit
END
# If we don't find an include directive, just comment out the code.
{ $as_echo "$as_me:${as_lineno-$LINENO}: checking for style of include used by $am_make" >&5
$as_echo_n "checking for style of include used by $am_make... " >&6; }
am_include="#"
am_quote=
_am_result=none
# First try GNU make style include.
echo "include confinc" > confmf
# Ignore all kinds of additional output from 'make'.
case `$am_make -s -f confmf 2>/dev/null` in
*the\ am_doit\ target*)
    am_include=include
    am_quote=
    _am_result=GNU
;;
esac
# Now try BSD make style include.
if test "$am_include" = "#"; then
    echo '.include "confinc"' > confmf
    case `$am_make -s -f confmf 2>/dev/null` in
*the\ am_doit\ target*)
        am_include=.include
        am_quote="\"
        _am_result=BSD
;;
esac
fi

{ $as_echo "$as_me:${as_lineno-$LINENO}: result: $_am_result" >&5
$as_echo "$_am_result" >&6; }
rm -f confinc confmf

# Check whether --enable-dependency-tracking was given.
if test "${enable_dependency_tracking+set}" = set; then
    enableval=$enable_dependency_tracking;
fi

if test "x$enable_dependency_tracking" != xno; then
    am_depcomp="$ac_aux_dir/depcomp"
    AMDEPBACKSLASH='\'
```

```

    am__nodep='_no'
fi
if test "x$enable_dependency_tracking" != xno; then
  AMDEP_TRUE=
  AMDEP_FALSE="#"
else
  AMDEP_TRUE="#"
  AMDEP_FALSE=
fi

# Check whether --enable-silent-rules was given.
if test "${enable_silent_rules+set}" = set; then :
  enableval=$enable_silent_rules;
fi

case $enable_silent_rules in # ((((
  yes) AM_DEFAULT_VERBOSITY=0;;
  no) AM_DEFAULT_VERBOSITY=1;;
  *) AM_DEFAULT_VERBOSITY=1;;
esac
am_make=${MAKE-make}
{ $as_echo "$as_me:${as_lineno-$LINENO}: checking whether $am_make supports nested variables" >&5
$as_echo_n "checking whether $am_make supports nested variables... " >&6; }
if ${am_cv_make_support_nested_variables+:} false; then :
  $as_echo_n "(cached) " >&6
else
  if $as_echo 'TRUE=$(BAR$(V))'
BAR0=false
BAR1=true
V=1
am__doit:
@$(TRUE)
.PHONY: am__doit' | $am_make -f - >/dev/null 2>&1; then
  am_cv_make_support_nested_variables=yes
else
  am_cv_make_support_nested_variables=no
fi
fi
{ $as_echo "$as_me:${as_lineno-$LINENO}: result: $am_cv_make_support_nested_variables" >&5
$as_echo "$am_cv_make_support_nested_variables" >&6; }
if test $am_cv_make_support_nested_variables = yes; then
  AM_V='$(V)'
  AM_DEFAULT_V='${AM_DEFAULT_VERBOSITY}'
else
  AM_V=$AM_DEFAULT_VERBOSITY
  AM_DEFAULT_V=$AM_DEFAULT_VERBOSITY
fi
AM_BACKSLASH='\\'

if test `cd $srcdir && pwd` != `pwd`; then
  # Use -I$(srcdir) only when $(srcdir) != ., so that make's output
  # is not polluted with repeated "-I."
  am__isrc=' -I$(srcdir)'
  # test to see if srcdir already configured
  if test -f $srcdir/config.status; then
    as_fn_error $? "source directory already configured; run \"make distclean\" there
first" "$LINENO" 5

```

```

    fi
fi

# test whether we have cygpath
if test -z "$CYGPATH_W"; then
  if (cygpath --version) >/dev/null 2>/dev/null; then
    CYGPATH_W='cygpath -w'
  else
    CYGPATH_W=echo
  fi
fi

# Define the identity of the package.
PACKAGE='lab_05'
VERSION='3.0'

cat >>confdefs.h <<_ACEOF
#define PACKAGE "$PACKAGE"
_ACEOF

cat >>confdefs.h <<_ACEOF
#define VERSION "$VERSION"
_ACEOF

# Some tools Automake needs.

ACLOCAL=${ACLOCAL-"\${am_missing_run}acllocal-\${am__api_version}"}

AUTOCONF=${AUTOCONF-"\${am_missing_run}autoconf"}

AUTOMAKE=${AUTOMAKE-"\${am_missing_run}automake-\${am__api_version}"}

AUTOHEADER=${AUTOHEADER-"\${am_missing_run}autoheader"}

MAKEINFO=${MAKEINFO-"\${am_missing_run}makeinfo"}

# For better backward compatibility. To be removed once Automake 1.9.x
# dies out for good. For more background, see:
# <http://lists.gnu.org/archive/html/automake/2012-07/msg00001.html>
# <http://lists.gnu.org/archive/html/automake/2012-07/msg00014.html>
mkdir_p='${MKDIR_P}'

# We need awk for the "check" target (and possibly the TAP driver). The
# system "awk" is bad on some platforms.
# Always define AMTAR for backward compatibility. Yes, it's still used
# in the wild :-( We should find a proper way to deprecate it ...
AMTAR='$$\{TAR-tar\}'

# We'll loop over all known methods to create a tar archive until one works.
_am_tools='gnutar pax cpio none'

am_tar='$$\{TAR-tar\} chof - "\$\$tardir"' am_untar='$$\{TAR-tar\} xf - '

```

```

depcc="$CC"    am_compiler_list=

{ $as_echo "$as_me:${as_lineno-$LINENO}: checking dependency style of $depcc" >&5
$as_echo_n "checking dependency style of $depcc... " >&6; }
if ${am_cv_CC_dependencies_compiler_type+:} false; then :
$as_echo_n "(cached) " >&6
else
if test -z "$AMDEP_TRUE" && test -f "$am_depcomp"; then
# We make a subdir and do the tests there. Otherwise we can end up
# making bogus files that we don't know about and never remove. For
# instance it was reported that on HP-UX the gcc test will end up
# making a dummy file named 'D' -- because '-MD' means "put the output
# in D".
rm -rf conftest.dir
mkdir conftest.dir
# Copy depcomp to subdir because otherwise we won't find it if we're
# using a relative directory.
cp "$am_depcomp" conftest.dir
cd conftest.dir
# We will build objects and dependencies in a subdirectory because
# it helps to detect inapplicable dependency modes. For instance
# both Tru64's cc and ICC support -MD to output dependencies as a
# side effect of compilation, but ICC will put the dependencies in
# the current directory while Tru64 will put them in the object
# directory.
mkdir sub

am_cv_CC_dependencies_compiler_type=none
if test "$am_compiler_list" = ""; then
  am_compiler_list=`sed -n 's/^#*\([a-zA-Z0-9]*\))$/\1/p' < ./depcomp`  

fi
am_universal=false
case "$depcc" in
  *\ -arch\ *\ -arch\ *) am_universal=true ;;
esac

for depmode in $am_compiler_list; do
# Setup a source with many dependencies, because some compilers
# like to wrap large dependency lists on column 80 (with \), and
# we should not choose a depcomp mode which is confused by this.
#
# We need to recreate these files for each test, as the compiler may
# overwrite some of them when testing with obscure command lines.
# This happens at least with the AIX C compiler.
: > sub/conftest.c
for i in 1 2 3 4 5 6; do
  echo '#include "conftst$i.h"' >> sub/conftest.c
  # Using ": > sub/conftst$i.h" creates only sub/conftst1.h with
  # Solaris 10 /bin/sh.
  echo '/* dummy */' > sub/conftst$i.h
done
echo "${am_include} ${am_quote}sub/conftest.Po${am_quote}" > confmf

# We check with '-c' and '-o' for the sake of the "dashmstdout"
# mode. It turns out that the SunPro C++ compiler does not properly

```

```

# handle '-M -o', and we need to detect this. Also, some Intel
# versions had trouble with output in subdirs.
am__obj=sub/conftest.${OBJEXT-o}
am__minus_obj="-o $am__obj"
case $depmode in
gcc)
    # This depmode causes a compiler race in universal mode.
    test "$am__universal" = false || continue
    ;;
nosideeffect)
    # After this tag, mechanisms are not by side-effect, so they'll
    # only be used when explicitly requested.
    if test "$enable_dependency_tracking" = xyes; then
continue
    else
break
    fi
    ;;
msvc7 | msvc7msys | msvisualcpp | msvcmsys)
    # This compiler won't grok '-c -o', but also, the minuso test has
    # not run yet. These depmodes are late enough in the game, and
    # so weak that their functioning should not be impacted.
    am__obj=sub/conftest.${OBJEXT-o}
    am__minus_obj=
    ;;
none) break ;;
esac
if depmode=$depmode \
    source=sub/conftest.c object=$am__obj \
    depfile=sub/conftest.Po tmpdepfile=sub/conftest.TPo \
    $SHELL ./depcomp $depcc -c $am__minus_obj sub/conftest.c \
    >/dev/null 2>>conftest.err &&
    grep sub/conftst1.h sub/conftest.Po > /dev/null 2>&1 &&
    grep sub/conftst6.h sub/conftest.Po > /dev/null 2>&1 &&
    grep $am__obj sub/conftest.Po > /dev/null 2>&1 &&
    ${MAKE-make} -s -f confmf > /dev/null 2>&1; then
    #icc doesn't choke on unknown options, it will just issue warnings
    #or remarks (even with -Werror). So we grep stderr for any message
    #that says an option was ignored or not supported.
    #When given -MP, icc 7.0 and 7.1 complain thusly:
    #icc: Command Line warning: ignoring option '-M'; no argument required
    #The diagnosis changed in icc 8.0:
    #icc: Command Line remark: option '-MP' not supported
    if (grep 'ignoring option' conftest.err ||
        grep 'not supported' conftest.err) >/dev/null 2>&1; then :; else
        am_cv_CC_dependencies_compiler_type=$depmode
        break
    fi
fi
done

cd ..
rm -rf conftest.dir
else
    am_cv_CC_dependencies_compiler_type=none
fi

fi
{ $as_echo "$as_me:${as_lineno-$LINENO}: result: $am_cv_CC_dependencies_compiler_type" \
>&5

```

```

$as_echo "$am_cv_CC_dependencies_compiler_type" >&6; }
CCDEPMODE=depmode=$am_cv_CC_dependencies_compiler_type

if
  test "x$enable_dependency_tracking" != xno \
  && test "$am_cv_CC_dependencies_compiler_type" = gcc3; then
    am_fastdepCC_TRUE=
    am_fastdepCC_FALSE='#'
else
  am_fastdepCC_TRUE='#'
  am_fastdepCC_FALSE=
fi

# POSIX will say in a future version that running "rm -f" with no argument
# is OK; and we want to be able to make that assumption in our Makefile
# recipes. So use an aggressive probe to check that the usage we want is
# actually supported "in the wild" to an acceptable degree.
# See automake bug#10828.
# To make any issue more visible, cause the running configure to be aborted
# by default if the 'rm' program in use doesn't match our expectations; the
# user can still override this though.
if rm -f && rm -fr && rm -rf; then : OK; else
  cat >&2 <<'END'
Oops!

Your 'rm' program seems unable to run without file operands specified
on the command line, even when the '-f' option is present. This is contrary
to the behaviour of most rm programs out there, and not conforming with
the upcoming POSIX standard: <http://austingroupbugs.net/view.php?id=542>

Please tell bug-automake@gnu.org about your system, including the value
of your $PATH and any error possibly output before this message. This
can help us improve future automake versions.

END
if test x"$ACCEPT_INFERIOR_RM_PROGRAM" = x"yes"; then
  echo 'Configuration will proceed anyway, since you have set the' >&2
  echo 'ACCEPT_INFERIOR_RM_PROGRAM variable to "yes"' >&2
  echo >&2
else
  cat >&2 <<'END'
Aborting the configuration process, to ensure you take notice of the issue.

You can download and install GNU coreutils to get an 'rm' implementation
that behaves properly: <http://www.gnu.org/software/coreutils/>.

If you want to complete the configuration process using your problematic
'rm' anyway, export the environment variable ACCEPT_INFERIOR_RM_PROGRAM
to "yes", and re-run configure.

END
  as_fn_error $? "Your 'rm' program is bad, sorry." "$LINENO" 5
fi
fi

if test -n "$ac_tool_prefix"; then
  # Extract the first word of "{$ac_tool_prefix}ranlib", so it can be a program name
  # with args.

```

```

set dummy ${ac_tool_prefix}ranlib; ac_word=$2
{ $as_echo "$as_me:${as_lineno-$LINENO}: checking for $ac_word" >&5
$as_echo_n "checking for $ac_word... " >&6; }
if ${ac_cv_prog_RANLIB+:} false; then :
  $as_echo_n "(cached) " >&6
else
  if test -n "$RANLIB"; then
    ac_cv_prog_RANLIB="$RANLIB" # Let the user override the test.
  else
as_save_IFS=$IFS; IFS=$PATH_SEPARATOR
for as_dir in $PATH
do
  IFS=$as_save_IFS
  test -z "$as_dir" && as_dir=.
    for ac_exec_ext in '' $ac_executable_extensions; do
      if as_fn_executable_p "$as_dir/$ac_word$ac_exec_ext"; then
        ac_cv_prog_RANLIB="${ac_tool_prefix}ranlib"
        $as_echo "$as_me:${as_lineno-$LINENO}: found $as_dir/$ac_word$ac_exec_ext" >&5
        break 2
      fi
    done
  done
IFS=$as_save_IFS
fi
fi
RANLIB=${ac_cv_prog_RANLIB}
if test -n "$RANLIB"; then
  { $as_echo "$as_me:${as_lineno-$LINENO}: result: $RANLIB" >&5
$as_echo "$RANLIB" >&6; }
else
  { $as_echo "$as_me:${as_lineno-$LINENO}: result: no" >&5
$as_echo "no" >&6; }
fi

fi
if test -z "$ac_cv_prog_RANLIB"; then
  ac_ct_RANLIB=$RANLIB
  # Extract the first word of "ranlib", so it can be a program name with args.
set dummy ranlib; ac_word=$2
{ $as_echo "$as_me:${as_lineno-$LINENO}: checking for $ac_word" >&5
$as_echo_n "checking for $ac_word... " >&6; }
if ${ac_cv_prog_ac_ct_RANLIB+:} false; then :
  $as_echo_n "(cached) " >&6
else
  if test -n "$ac_ct_RANLIB"; then
    ac_cv_prog_ac_ct_RANLIB="$ac_ct_RANLIB" # Let the user override the test.
  else
as_save_IFS=$IFS; IFS=$PATH_SEPARATOR
for as_dir in $PATH
do
  IFS=$as_save_IFS
  test -z "$as_dir" && as_dir=.
    for ac_exec_ext in '' $ac_executable_extensions; do
      if as_fn_executable_p "$as_dir/$ac_word$ac_exec_ext"; then
        ac_cv_prog_ac_ct_RANLIB="ranlib"
        $as_echo "$as_me:${as_lineno-$LINENO}: found $as_dir/$ac_word$ac_exec_ext" >&5
        break 2
      fi
    done
  done
fi

```

```

done
done
IFS=$as_save_IFS

fi
fi
ac_ct_RANLIB=$ac_cv_prog_ac_ct_RANLIB
if test -n "$ac_ct_RANLIB"; then
{ $as_echo "$as_me:${as_lineno-$LINENO}: result: $ac_ct_RANLIB" >&5
$as_echo "$ac_ct_RANLIB" >&6; }
else
{ $as_echo "$as_me:${as_lineno-$LINENO}: result: no" >&5
$as_echo "no" >&6; }
fi

if test "x$ac_ct_RANLIB" = x; then
RANLIB=":"
else
case $cross_compiling:$ac_tool_warned in
yes:)
{ $as_echo "$as_me:${as_lineno-$LINENO}: WARNING: using cross tools not prefixed with
host triplet" >&5
$as_echo "$as_me: WARNING: using cross tools not prefixed with host triplet" >&2;}
ac_tool_warned=yes ;;
esac
RANLIB=$ac_ct_RANLIB
fi
else
RANLIB="$ac_cv_prog_RANLIB"
fi

ac_config_files="$ac_config_files build/Makefile Makefile"

cat >confcache <<\_ACEOF
# This file is a shell script that caches the results of configure
# tests run on this system so they can be shared between configure
# scripts and configure runs, see configure's option --config-cache.
# It is not useful on other systems. If it contains results you don't
# want to keep, you may remove or edit it.
#
# config.status only pays attention to the cache file if you give it
# the --recheck option to rerun configure.
#
# `ac_cv_env_foo' variables (set or unset) will be overridden when
# loading this file, other *unset* `ac_cv_foo' will be assigned the
# following values.

_ACEOF

# The following way of writing the cache mishandles newlines in values,
# but we know of no workaround that is simple, portable, and efficient.
# So, we kill variables containing newlines.
# Ultrix sh set writes to stderr and can't be redirected directly,
# and sets the high bit in the cache file unless we assign to the vars.
(
for ac_var in ` (set) 2>&1 | sed -n 's/^\\([a-zA-Z_][a-zA-Z0-9_]*\\)=.*\\1/p'` ; do
eval ac_val=\${ac_var}
case $ac_val in #(
*${as_nl}*)

```

```

        case $ac_var in #(
        *_cv_*) { $as_echo "$as_me:${as_lineno-$LINENO}: WARNING: cache variable $ac_var
contains a newline" >&5
$as_echo "$as_me: WARNING: cache variable $ac_var contains a newline" >&2;} ;;
        esac
        case $ac_var in #(
        _ | IFS | as_nl) ;; #(
        BASH_ARGV | BASH_SOURCE) eval $ac_var= ;; #(
        *) { eval $ac_var=; unset $ac_var;} ;;
        esac ;;
    esac
done

(set) 2>&1 |
case $as_nl` (ac_space=' ' ; set) 2>&1` in #(
*${as_nl}ac_space=\ *)
    # `set' does not quote correctly, so add quotes: double-quote
    # substitution turns \\\\ into \\, and sed turns \\ into \.
    sed -n \
"s/'\\\\\\\\'"/g;
s/^\\([_${as_cr_alnum}]*${cv}_[_${as_cr_alnum}]*\\)=\\(.*\\)/\\1='\\2'/p"
    ;; #(
*)
    # `set' quotes correctly as required by POSIX, so do not add quotes.
    sed -n "/^[_${as_cr_alnum}]*${cv}_[_${as_cr_alnum}]*/p"
    ;;
esac |
sort
) |
sed ' 
/^ac_cv_env_/b end
t clear
:clear
s/^\\([=]*\\)=\\(.*[{}].*\\)$/test "${1+set}" = set || &
t end
s/^\\([=]*\\)=\\(.*)$/\\1=${1=\2}/
:end' >>confcache
if diff "$cache_file" confcache >/dev/null 2>&1; then :; else
    if test -w "$cache_file"; then
        if test "x$cache_file" != "x/dev/null"; then
            { $as_echo "$as_me:${as_lineno-$LINENO}: updating cache $cache_file" >&5
$as_echo "$as_me: updating cache $cache_file" >&6;}
            if test ! -f "$cache_file" || test -h "$cache_file"; then
                cat confcache >"$cache_file"
            else
                case $cache_file in #(
                /* | ?:*)
                    mv -f confcache "$cache_file"$$ &&
                    mv -f "$cache_file"$$ "$cache_file" ;; #(
                    *)
                    mv -f confcache "$cache_file" ;;
esac
                fi
            fi
        else
            { $as_echo "$as_me:${as_lineno-$LINENO}: not updating unwritable cache $cache_file"
>&5
$as_echo "$as_me: not updating unwritable cache $cache_file" >&6;}
            fi
        fi
    fi

```

```

rm -f confcache

test "x$prefix" = xNONE && prefix=$ac_default_prefix
# Let make expand exec_prefix.
test "x$exec_prefix" = xNONE && exec_prefix='${prefix}'

# Transform confdefs.h into DEFS.
# Protect against shell expansion while executing Makefile rules.
# Protect against Makefile macro expansion.
#
# If the first sed substitution is executed (which looks for macros that
# take arguments), then branch to the quote section. Otherwise,
# look for a macro that doesn't take arguments.
ac_script='
:mline
/\$/{
  N
  s,\n,, 
  b mline
}
t clear
:clear
s/^[\t ]*#[\t ]*define[ \t ][\t ]*\(\[^[\t ]*\(\[^[\t ]*\)*\)\)[\t ]*\(\.*\)/-\D\1=\2/g
t quote
s/^[\t ]*#[\t ]*define[ \t ][\t ]*\(\[^[\t ]*\[^[\t ]*\)*\)[\t ]*\(\.*\)/-\D\1=\2/g
t quote
b any
:quote
s/[`~#$^&*(){}\\|;`\\''<>?]/\\&/g
s/\\/[\\&/g
s/\\]/\\&/g
s/\\$/\\$/g
H
:any
${{
  g
  s/^\\n// 
  s/\\n/ /g
  p
}}
DEFS=`sed -n "$ac_script" confdefs.h`
```

```

ac_libobjs=
ac_lplibobjs=
U=
for ac_i in : $LIBOBJS; do test "x$ac_i" = x: && continue
# 1. Remove the extension, and $U if already installed.
ac_script='s/\$U\./.;s/\.\.o$//;s/\.\.obj$//'
ac_i=`as_echo "$ac_i" | sed "$ac_script"`
# 2. Prepend LIBOBJDIR. When used with automake>=1.10 LIBOBJDIR
#     will be set to the directory where LIBOBJS objects are built.
as_fn_append ac_libobjs " \${LIBOBJDIR}\$ac_i\$U.ac_objext"
as_fn_append ac_lplibobjs " \${LIBOBJDIR}\$ac_i'\$U.lo'
done
LIBOBJS=$ac_libobjs
LTLIBOBJS=$ac_lplibobjs
```

```

{ $as_echo "$as_me:${as_lineno-$LINENO}: checking that generated files are newer than
configure" >&5
$as_echo_n "checking that generated files are newer than configure... " >&6; }
  if test -n "$am_sleep_pid"; then
    # Hide warnings about reused PIDs.
    wait $am_sleep_pid 2>/dev/null
  fi
  { $as_echo "$as_me:${as_lineno-$LINENO}: result: done" >&5
$as_echo "done" >&6; }
if test -z "${AMDEP_TRUE}" && test -z "${AMDEP_FALSE}"; then
  as_fn_error $? "conditional \"AMDEP\" was never defined.
Usually this means the macro was only invoked conditionally." "$LINENO" 5
fi
if test -z "${am_fastdepCC_TRUE}" && test -z "${am_fastdepCC_FALSE}"; then
  as_fn_error $? "conditional \"am_fastdepCC\" was never defined.
Usually this means the macro was only invoked conditionally." "$LINENO" 5
fi
if test -n "$EXEEXT"; then
  am_EXEEXT_TRUE=
  am_EXEEXT_FALSE='#'
else
  am_EXEEXT_TRUE='#'
  am_EXEEXT_FALSE=
fi

: "${CONFIG_STATUS=./config.status}"
ac_write_fail=0
ac_clean_files_save=$ac_clean_files
ac_clean_files="$ac_clean_files $CONFIG_STATUS"
{ $as_echo "$as_me:${as_lineno-$LINENO}: creating $CONFIG_STATUS" >&5
$as_echo "$as_me: creating $CONFIG_STATUS" >&6; }
as_write_fail=0
cat >$CONFIG_STATUS <<_ASEOF || as_write_fail=1
#! $SHELL
# Generated by $as_me.
# Run this file to recreate the current configuration.
# Compiler output produced by configure, useful for debugging
# configure, is in config.log if it exists.

debug=false
ac_cs_recheck=false
ac_cs_silent=false

SHELL=\${CONFIG_SHELL-$SHELL}
export SHELL
_ASEOF
cat >>$CONFIG_STATUS <<\_ASEOF || as_write_fail=1
## -----
## M4sh Initialization.
## -----

# Be more Bourne compatible
DUALCASE=1; export DUALCASE # for MKS sh
if test -n "${ZSH_VERSION+set}" && (emulate sh) >/dev/null 2>&1; then :
  emulate sh
  NULLCMD=:
# Pre-4.2 versions of Zsh do word splitting on ${1+"$@"}, which
# is contrary to our usage. Disable this feature.

```



```

# IFS
# We need space, tab and new line, in precisely that order. Quoting is
# there to prevent editors from complaining about space-tab.
# (If _AS_PATH_WALK were called with IFS unset, it would disable word
# splitting by setting IFS to empty value.)
IFS="" $as_nl

# Find who we are. Look in the path if we contain no directory separator.
as_myself=
case $0 in
  *[\\/*] as_myself=$0 ;;
  *) as_save_IFS=$IFS; IFS=$PATH_SEPARATOR
for as_dir in $PATH
do
  IFS=$as_save_IFS
  test -z "$as_dir" && as_dir=.
  test -r "$as_dir/$0" && as_myself=$as_dir/$0 && break
done
IFS=$as_save_IFS

;;
esac
# We did not find ourselves, most probably we were run as `sh COMMAND'
# in which case we are not to be found in the path.
if test "x$as_myself" = x; then
  as_myself=$0
fi
if test ! -f "$as_myself"; then
  $as_echo "$as_myself: error: cannot find myself; rerun with an absolute file name"
>&2
  exit 1
fi

# Unset variables that we do not need and which cause bugs (e.g. in
# pre-3.0 UWIN ksh). But do not cause bugs in bash 2.01; the "|| exit 1"
# suppresses any "Segmentation fault" message there. '()' could
# trigger a bug in pdksh 5.2.14.
for as_var in BASH_ENV ENV MAIL MAILPATH
do eval test x\$${as_var+set} = xset \
  && ( (unset $as_var) || exit 1 ) >/dev/null 2>&1 && unset $as_var || :
done
PS1='$ '
PS2='> '
PS4='+' '

# NLS nuisances.
LC_ALL=C
export LC_ALL
LANGUAGE=C
export LANGUAGE

# CDPATH.
(unset CDPATH) >/dev/null 2>&1 && unset CDPATH

# as_fn_error STATUS ERROR [LINENO LOG_FD]
# -----
# Output ``basename $0``: error: ERROR" to stderr. If LINENO and LOG_FD are
# provided, also output the error to LOG_FD, referencing LINENO. Then exit the

```

```

# script with STATUS, using 1 if that was 0.
as_fn_error () {
    as_status=$1; test $as_status -eq 0 && as_status=1
    if test "$4"; then
        as_lineno=${as_lineno%"$3"} as_lineno_stack=$as_lineno_stack$as_lineno_stack
        $as_echo "$as_me:${as_lineno-$LINENO}: error: $2" >&$4
    fi
    $as_echo "$as_me: error: $2" >&2
    as_fn_exit $as_status
} # as_fn_error

# as_fn_set_status STATUS
# -----
# Set $? to STATUS, without forking.
as_fn_set_status () {
    return $1
} # as_fn_set_status

# as_fn_exit STATUS
# -----
# Exit the shell with STATUS, even in a "trap 0" or "set -e" context.
as_fn_exit () {
    set +e
    as_fn_set_status $1
    exit $1
} # as_fn_exit

# as_fn_unset VAR
# -----
# Portably unset VAR.
as_fn_unset () {
    { eval $1=; unset $1; }
}
as_unset=as_fn_unset
# as_fn_append VAR VALUE
# -----
# Append the text in VALUE to the end of the definition contained in VAR. Take
# advantage of any shell optimizations that allow amortized linear growth over
# repeated appends, instead of the typical quadratic growth present in naive
# implementations.
if (eval "as_var=1; as_var+=2; test x\$as_var = x12") 2>/dev/null; then :
    eval 'as_fn_append ()'
    {
        eval $1+=\"$2
    }'
else
    as_fn_append ()
    {
        eval $1=\$\$1\$2
    }
fi # as_fn_append

# as_fn_arith ARG...
# -----
# Perform arithmetic evaluation on the ARGs, and store the result in the

```

```

# global $as_val. Take advantage of shells that can avoid forks. The arguments
# must be portable across ${()} and expr.
if (eval "test \$${( 1 + 1 )} = 2") 2>/dev/null; then :
    eval 'as_fn_arith ()'
    {
        as_val=${*}
    }
else
    as_fn_arith ()
    {
        as_val=`expr "$@" || test $? -eq 1`
    }
fi # as_fn_arith

if expr a : '\(a\)' >/dev/null 2>&1 &&
    test "X`expr 00001 : .*`\(...\)`" = X001; then
    as_expr=expr
else
    as_expr=false
fi

if (basename -- /) >/dev/null 2>&1 && test "X`basename -- / 2>&1`" = "X/"; then
    as_basename=basename
else
    as_basename=false
fi

if (as_dir=`dirname -- /` && test "X$as_dir" = X/) >/dev/null 2>&1; then
    as_dirname=dirname
else
    as_dirname=false
fi

as_me=`$as_basename -- "$0" ||
$as_expr X/"$0" : '.*//([^\n][^\n]*\)/\/*$' \| \
X"$0" : 'X//(\/)$' \| \
X"$0" : 'X(\/)' \| . 2>/dev/null ||
$as_echo X/"$0" |
    sed '/^.*//([^\n][^\n]*\)\/*$/{
        s//\1/
        q
    }
/^X//(\n\n\n)$|{
        s//\1/
        q
    }
/^X//(\n\n).*/{
        s//\1/
        q
    }
s/.*/./; q'`


# Avoid depending upon Character Ranges.
as_cr_letters='abcdefghijklmnopqrstuvwxyz'
as_cr LETTERS='ABCDEFGHIJKLMNOPQRSTUVWXYZ'
as_cr_Letters=$as_cr_letters$as_cr LETTERS
as_cr_digits='0123456789'
as_cr_alnum=$as_cr_Letters$as_cr_digits

```



```

X"$as_dir" : 'X\(\//\)[^/]' \| \
X"$as_dir" : 'X\(\//\$)' \| \
X"$as_dir" : 'X\(/\)' \| . 2>/dev/null ||
$as_echo X"$as_dir" |
  sed '/^X\(.*[^\//]\)\//\/*[^/][^/]*\/*$/{
    s//\1/
    q
  }
/^X\(\//\)[^/].*|{
    s//\1/
    q
}
/^X\(\//\$|{
    s//\1/
    q
}
/^X\(\//\).*|{
    s//\1/
    q
}
s/.*/./; q`|
  test -d "$as_dir" && break
done
test -z "$as_dirs" || eval "mkdir $as_dirs"
} || test -d "$as_dir" || as_fn_error $? "cannot create directory $as_dir"

} # as_fn_mkdir_p
if mkdir -p . 2>/dev/null; then
  as_mkdir_p='mkdir -p "$as_dir"'
else
  test -d ./-p && rmdir ./-p
  as_mkdir_p=false
fi

# as_fn_executable_p FILE
# -----
# Test if FILE is an executable regular file.
as_fn_executable_p ()
{
  test -f "$1" && test -x "$1"
} # as_fn_executable_p
as_test_x='test -x'
as_executable_p=as_fn_executable_p

# Sed expression to map a string onto a valid CPP name.
as_tr_cpp="eval sed 'y%*$as_cr_letters%P$as_cr LETTERS%;s%[^_$as_cr_alnum]%%g'"

# Sed expression to map a string onto a valid variable name.
as_tr_sh="eval sed 'y%*+%pp%;s%[^_$as_cr_alnum]%%g'"

exec 6>&1
## -----
## Main body of $CONFIG_STATUS script. ##
## -----
_ASEOF
test $as_write_fail = 0 && chmod +x $CONFIG_STATUS || ac_write_fail=1

```

```
cat >>$CONFIG_STATUS <<_\ACEOF || ac_write_fail=1
# Save the log message, to keep $0 and so on meaningful, and to
# report actual input values of CONFIG_FILES etc. instead of their
# values after options handling.
ac_log="
This file was extended by Lab_05 $as_me 3.0, which was
generated by GNU Autoconf 2.69. Invocation command line was
```

```
CONFIG_FILES      = $CONFIG_FILES
CONFIG_HEADERS   = $CONFIG_HEADERS
CONFIG_LINKS     = $CONFIG_LINKS
CONFIG_COMMANDS  = $CONFIG_COMMANDS
$ $0 $@
```

```
on `hostname || uname -n` 2>/dev/null | sed 1q`  
"
```

_ACEOF

```
case $ac_config_files in
"") set x $ac_config_files; shift; ac_config_files=$*;;
esac
```

```
cat >>$CONFIG_STATUS <<_ACEOF || ac_write_fail=1
# Files that config.status was made for.
config_files="$ac_config_files"
config_commands="$ac_config_commands"
```

_ACEOF

```
cat >>$CONFIG_STATUS <<_\ACEOF || ac_write_fail=1
ac_cs_usage="\
`$as_me' instantiates files and other configuration actions
from templates according to the current configuration. Unless the files
and actions are specified as TAGs, all are instantiated by default.
```

Usage: \$0 [OPTION]... [TAG]...

```
-h, --help      print this help, then exit
-V, --version   print version number and configuration settings, then exit
--config       print configuration, then exit
-q, --quiet, --silent
               do not print progress messages
-d, --debug     don't remove temporary files
--recheck      update $as_me by reconfiguring in the same conditions
--file=FILE[:TEMPLATE]
               instantiate the configuration file FILE
```

Configuration files:
\$config_files

Configuration commands:
\$config_commands

Report bugs to <misterptits@yandex.ru>."

_ACEOF

```
cat >>$CONFIG_STATUS <<_ACEOF || ac_write_fail=1
```



```

    $as_echo "$ac_cs_usage"; exit ;;
-q | -quiet | --quiet | --quie | --qui | --qu | --q \
| -silent | --silent | --silen | --sile | --sil | --si | --s)
ac_cs_silent=: ;;

# This is an error.
*) as_fn_error $? "unrecognized option: \`$1'
Try '\`$0 --help' for more information." ;;

*) as_fn_append ac_config_targets " $1"
   ac_need_defaults=false ;;

esac
shift
done

ac_configure_extra_args=

if $ac_cs_silent; then
  exec 6>/dev/null
  ac_configure_extra_args="$ac_configure_extra_args --silent"
fi

_ACEOF
cat >>$CONFIG_STATUS <<_ACEOF || ac_write_fail=1
if \$ac_cs_recheck; then
  set X $SHELL '$0' $ac_configure_args \$ac_configure_extra_args --no-create --no-
recursion
  shift
  \$as_echo "running CONFIG_SHELL=$SHELL \$*" >&6
  CONFIG_SHELL='$SHELL'
  export CONFIG_SHELL
  exec "\$@"
fi

_ACEOF
cat >>$CONFIG_STATUS <<\_ACEOF || ac_write_fail=1
exec 5>>config.log
{
  echo
  sed 'h;s/.-/g;s/^...## /;s/...$/ ##/;p;x;p;x' <<_ASBOX
## Running $as_me. ##
_ASBOX
  $as_echo "$ac_log"
} >&5

_ACEOF
cat >>$CONFIG_STATUS <<_ACEOF || ac_write_fail=1
#
# INIT-COMMANDS
#
AMDEP_TRUE="$AMDEP_TRUE" ac_aux_dir="$ac_aux_dir"

_ACEOF

cat >>$CONFIG_STATUS <<\_ACEOF || ac_write_fail=1

# Handling of arguments.
for ac_config_target in $ac_config_targets
do

```

```

    case $ac_config_target in
      "depfiles") CONFIG_COMMANDS="$CONFIG_COMMANDS depfiles" ;;
      "build/Makefile") CONFIG_FILES="$CONFIG_FILES build/Makefile" ;;
      "Makefile") CONFIG_FILES="$CONFIG_FILES Makefile" ;;

*) as_fn_error $? "invalid argument: \`$ac_config_target'" "$LINENO" 5;;
esac
done

# If the user did not use the arguments to specify the items to instantiate,
# then the envvar interface is used. Set only those that are not.
# We use the long form for the default assignment because of an extremely
# bizarre bug on SunOS 4.1.3.
if $ac_need_defaults; then
  test "${CONFIG_FILES+set}" = set || CONFIG_FILES=$config_files
  test "${CONFIG_COMMANDS+set}" = set || CONFIG_COMMANDS=$config_commands
fi

# Have a temporary directory for convenience. Make it in the build tree
# simply because there is no reason against having it here, and in addition,
# creating and moving files from /tmp can sometimes cause problems.
# Hook for its removal unless debugging.
# Note that there is a small window in which the directory will not be cleaned:
# after its creation but before its name has been assigned to `$tmp'.
$debug ||
{
  tmp= ac_tmp=
  trap 'exit_status=$?
  : "${ac_tmp}:=$tmp"
  { test ! -d "$ac_tmp" || rm -fr "$ac_tmp"; } && exit $exit_status
  0
  trap 'as_fn_exit 1' 1 2 13 15
'
# Create a (secure) tmp directory for tmp files.

{
  tmp=`(umask 077 && mktemp -d "./confXXXXXX") 2>/dev/null` &&
  test -d "$tmp"
} ||
{
  tmp=./conf$$-$RANDOM
  (umask 077 && mkdir "$tmp")
} || as_fn_error $? "cannot create a temporary directory in ." "$LINENO" 5
ac_tmp=$tmp

# Set up the scripts for CONFIG_FILES section.
# No need to generate them if there are no CONFIG_FILES.
# This happens for instance with `./config.status config.h'.
if test -n "$CONFIG_FILES"; then

  ac_cr=`echo X | tr X '\015'`
  # On cygwin, bash can eat \r inside `` if the user requested igncr.
  # But we know of no other shell where ac_cr would be empty at this
  # point, so we can use a bashism as a fallback.
  if test "x$ac_cr" = x; then
    eval ac_cr=\$\\\'\\r\\'
  fi
  ac_cs_awk_cr=`$AWK 'BEGIN { print "a\\rb" }' </dev/null 2>/dev/null`
```

```

if test "$ac_cs_awk_cr" = "a${ac_cr}b"; then
    ac_cs_awk_cr='\\r'
else
    ac_cs_awk_cr=$ac_cr
fi

echo 'BEGIN {' >"$ac_tmp/subs1.awk" &&
_ACEOF

{

echo "cat >conf$$subs.awk <<_ACEOF" &&
echo "$ac_subst_vars" | sed 's/.*/&!$&$ac_delim/' &&
echo "_ACEOF"
} >conf$$subs.sh ||
as_fn_error $? "could not make $CONFIG_STATUS" "$LINENO" 5
ac_delim_num=`echo "$ac_subst_vars" | grep -c '^`'
ac_delim='%!_#!'
for ac_last_try in false false false false false ; do
    ./conf$$subs.sh ||
    as_fn_error $? "could not make $CONFIG_STATUS" "$LINENO" 5

ac_delim_n=`sed -n "s/.*$ac_delim\$/X/p" conf$$subs.awk | grep -c X`
if test $ac_delim_n = $ac_delim_num; then
    break
elif $ac_last_try; then
    as_fn_error $? "could not make $CONFIG_STATUS" "$LINENO" 5
else
    ac_delim="$ac_delim!$ac_delim _$ac_delim!! "
fi
done
rm -f conf$$subs.sh

cat >>$CONFIG_STATUS <<_ACEOF || ac_write_fail=1
cat >>"$ac_tmp/subs1.awk" <<\_ACAWK &&
_ACEOF
sed -n '
h
s/^S["; s/!.*/"]=/
p
g
s/^[^!]*!//
:repl
t repl
s/'"$ac_delim"'$//
t delim
:nl
h
s/\.(.\{148\}\)..*/\1/
t more1
s/"\\]/\\\\&/g; s/^"/; s/$/\\\\n\\"/
p
n
b repl
:more1
s/"\\]/\\\\&/g; s/^"/; s/$/"\\/
p
g
s/.\\{148\}//
t nl

```

```

:delim
h
s/(.{148}\}..\*/\1/
t more2
s/[ "\\"]/\\&/g; s/^"/; s/$/"\
p
b
:more2
s/[ "\\"]/\\&/g; s/^"/; s/$/"\\\
p
g
s/.{148}\}//
t delim
' <conf$$subs.awk | sed '
/^[""]/{ 
    N
    s/\n// 
}
' >>$CONFIG_STATUS || ac_write_fail=1
rm -f conf$$subs.awk
cat >>$CONFIG_STATUS <<_ACEOF || ac_write_fail=1
_ACAWK
cat >>"$ac_tmp/subs1.awk" <<_ACAWK &&
for (key in S) S_is_set[key] = 1
FS = " "
}

{
line = $ 0
nfields = split(line, field, "@")
substed = 0
len = length(field[1])
for (i = 2; i < nfields; i++) {
    key = field[i]
    keylen = length(key)
    if (S_is_set[key]) {
        value = S[key]
        line = substr(line, 1, len) "" value "" substr(line, len + keylen + 3)
        len += length(value) + length(field[++i])
        substed = 1
    } else
        len += 1 + keylen
}
print line
}

_ACAWK
_ACEOF
cat >>$CONFIG_STATUS <<\_ACEOF || ac_write_fail=1
if sed "s/$ac_cr//" < /dev/null > /dev/null 2>&1; then
    sed "s/$ac_cr$/;; s/$ac_cr/$ac_cs_awk_cr/g"
else
    cat
fi < "$ac_tmp/subs1.awk" > "$ac_tmp/subs.awk" \
    || as_fn_error $? "could not setup config files machinery" "$LINENO" 5
_ACEOF

# VPATH may cause trouble with some makes, so we remove sole ${srcdir},
# ${srcdir} and @srcdir@ entries from VPATH if srcdir is ".", strip Leading and

```

```

# trailing colons and then remove the whole line if VPATH becomes empty
# (actually we leave an empty line to preserve line numbers).
if test "x$srcdir" = x.; then
    ac_vpsub='/[ ]*[VPATH[ ]*[ ]*/{
h
s///
s/^:/
s/[ ]*$//
s/:$(srcdir):/:/g
s/:${srcdir}:/:/g
s:@srcdir@/:/g
s:^://
s:^$//"
x
s/\(=[ ]*\).*/\1/
G
s/\n//"
s:^=[ ]*[ ]*$//"
}'

cat >>$CONFIG_STATUS <<\_ACEOF || ac_write_fail=1
fi # test -n "$CONFIG_FILES"

eval set X " :F $CONFIG_FILES      :C $CONFIG_COMMANDS"
shift
for ac_tag
do
    case $ac_tag in
    :[FHLC]) ac_mode=$ac_tag; continue;;
    esac
    case $ac_mode$ac_tag in
    :[FHL]*:*);;
    :[* | :C*:*]) as_fn_error $? "invalid tag \`$ac_tag'" "$LINENO" 5;;
    :[FH]-) ac_tag=-:-;;
    :[FH]*) ac_tag=$ac_tag:$ac_tag.in;;
    esac
    ac_save_IFS=$IFS
    IFS=:
    set x $ac_tag
    IFS=$ac_save_IFS
    shift
    ac_file=$1
    shift

    case $ac_mode in
    :L) ac_source=$1;;
    :[FH])
        ac_file_inputs=
        for ac_f
        do
            case $ac_f in
            -) ac_f="$ac_tmp/stdin";;
            *) # Look for the file first in the build tree, then in the source tree
               # (if the path is not absolute). The absolute path cannot be DOS-style,
               # because $ac_f cannot contain `:'.
            test -f "$ac_f" ||
            case $ac_f in
            [\\/$]*) false;;

```



```

case "$ac_dir" in
.) ac_dir_suffix= ac_top_builddir_sub=. ac_top_build_prefix= ;;
*)
  ac_dir_suffix=/`$as_echo "$ac_dir" | sed 's|^\.[\\/]||'`  

  # A ".." for each directory in $ac_dir_suffix.  

  ac_top_builddir_sub=`$as_echo "$ac_dir_suffix" | sed 's|/[^\\\/]*/..|g;s|/||'`  

  case $ac_top_builddir_sub in  

 "") ac_top_builddir_sub=. ac_top_build_prefix= ;;  

 *) ac_top_build_prefix=$ac_top_builddir_sub/ ;;  

  esac ;;
esac
ac_abs_top_builddir=$ac_pwd
ac_abs_builddir=$ac_pwd$ac_dir_suffix
# for backward compatibility:
ac_top_builddir=$ac_top_build_prefix

case $srcdir in
.) # We are building in place.
  ac_srcdir=.
  ac_top_srcdir=$ac_top_builddir_sub
  ac_abs_top_srcdir=$ac_pwd ;;  

[\\/]*/ | ?:[:\\/]*) # Absolute name.
  ac_srcdir=$srcdir$ac_dir_suffix;
  ac_top_srcdir=$srcdir
  ac_abs_top_srcdir=$srcdir ;;  

*) # Relative name.
  ac_srcdir=$ac_top_build_prefix$srcdir$ac_dir_suffix
  ac_top_srcdir=$ac_top_build_prefix$srcdir
  ac_abs_top_srcdir=$ac_pwd/$srcdir ;;  

esac
ac_abs_srcdir=$ac_abs_top_srcdir$ac_dir_suffix

case $ac_mode in
:F)
#
# CONFIG_FILE
#
case $INSTALL in
[\\/$]* | ?:[:\\/]*) ac_INSTALL=$INSTALL ;;  

*) ac_INSTALL=$ac_top_build_prefix$INSTALL ;;  

esac
ac_MKDIR_P=$MKDIR_P
case $MKDIR_P in
[\\/$]* | ?:[:\\/]*) ;;  

*) ac_MKDIR_P=$ac_top_build_prefix$MKDIR_P ;;  

esac
_ACEOF

cat >>$CONFIG_STATUS <<_ACEOF || ac_write_fail=1
# If the template does not know about datarootdir, expand it.
# FIXME: This hack should be removed a few years after 2.60.
ac_datarootdir_hack=; ac_datarootdir_seen=
ac_sed_dataroot='
/datarootdir/ {
  p
  q
}
@datadir@/p

```

```

/@docdir@/p
/@infodir@/p
/@localedir@/p
/@mandir@/p'
case `eval "sed -n \"\$ac_sed_dataroot\" $ac_file_inputs"` in
*datarootdir*) ac_datarootdir_seen=yes;;
*@datadir@*|*@docdir@*|*@infodir@*|*@localedir@*|*@mandir@*)
{ $as_echo "$as_me:${{as_lineno-$LINENO}}: WARNING: $ac_file_inputs seems to ignore the
--datarootdir setting" >&5
$as_echo "$as_me: WARNING: $ac_file_inputs seems to ignore the --datarootdir setting"
>&2;}
_ACEOF
cat >>$CONFIG_STATUS <<_ACEOF || ac_write_fail=1
ac_datarootdir_hack='
s&@datadir@&$datadir&g
s&@docdir@&$docdir&g
s&@infodir@&$infodir&g
s&@localedir@&$localedir&g
s&@mandir@&$mandir&g
s&\\\$datarootdir&$datarootdir&g' ;;
esac
_ACEOF

# Neutralize VPATH when '$srcdir' = `.'.
# Shell code in configure.ac might set extrasub.
# FIXME: do we really want to maintain this feature?
cat >>$CONFIG_STATUS <<_ACEOF || ac_write_fail=1
ac_sed_extra="$ac_vpsub
$extrasub
_ACEOF
cat >>$CONFIG_STATUS <<\_ACEOF || ac_write_fail=1
:t
/@[a-zA-Z_][a-zA-Z_0-9]*@/!b
s|@configure_input@|$ac_sed_conf_input|;t t
s@top_builddir@&$ac_top_builddir_sub;t t
s@top_build_prefix@&$ac_top_build_prefix;t t
s@srcdir@&$ac_srcdir;t t
s@abs_srcdir@&$ac_abs_srcdir;t t
s@top_srcdir@&$ac_top_srcdir;t t
s@abs_top_srcdir@&$ac_abs_top_srcdir;t t
s@builddir@&$ac_builddir;t t
s@abs_builddir@&$ac_abs_builddir;t t
s@abs_top_builddir@&$ac_abs_top_builddir;t t
s@INSTALL@&$ac_INSTALL;t t
s@MKDIR_P@&$ac_MKDIR_P;t t
$ac_datarootdir_hack
"
eval sed \"\$ac_sed_extra\" \"$ac_file_inputs\" | $AWK -f "$ac_tmp/subs.awk" \
>$ac_tmp/out || as_fn_error $? "could not create $ac_file" "$LINENO" 5

test -z "$ac_datarootdir_hack$ac_datarootdir_seen" &&
{ ac_out=`sed -n '/\${datarootdir}/p' "$ac_tmp/out"; test -n "$ac_out"; } &&
{ ac_out=`sed -n '/^[*]*datarootdir[*]*:/p' \
"$ac_tmp/out"; test -z "$ac_out"; } &&
{ $as_echo "$as_me:${{as_lineno-$LINENO}}: WARNING: $ac_file contains a reference to
the variable \`datarootdir'
which seems to be undefined. Please make sure it is defined" >&5
$as_echo "$as_me: WARNING: $ac_file contains a reference to the variable \`datarootdir'
which seems to be undefined. Please make sure it is defined" >&2;}

```

```

rm -f "$ac_tmp/stdin"
case $ac_file in
-) cat "$ac_tmp/out" && rm -f "$ac_tmp/out";;
*) rm -f "$ac_file" && mv "$ac_tmp/out" "$ac_file";;
esac \
|| as_fn_error $? "could not create $ac_file" "$LINENO" 5
;;

:C) { $as_echo "$as_me:${{as_lineno-$LINENO}}: executing $ac_file commands" >&5
$as_echo "$as_me: executing $ac_file commands" >&6;}
;;
esac

case $ac_file$ac_mode in
"depfiles":C) test x"$AMDEP_TRUE" != x"" || {
# Older Autoconf quotes --file arguments for eval, but not when files
# are listed without --file. Let's play safe and only enable the eval
# if we detect the quoting.
case $CONFIG_FILES in
*\') eval set x "$CONFIG_FILES" ;;
*) set x $CONFIG_FILES ;;
esac
shift
for mf
do
# Strip MF so we end up with the name of the file.
mf=`echo "$mf" | sed -e 's/:.*$//'` 
# Check whether this is an Automake generated Makefile or not.
# We used to match only the files named 'Makefile.in', but
# some people rename them; so instead we look at the file content.
# Grep'ing the first line is not enough: some people post-process
# each Makefile.in and add a new line on top of each file to say so.
# Grep'ing the whole file is not good either: AIX grep has a line
# limit of 2048, but all sed's we know have understand at least 4000.
if sed -n 's,^#.*generated by automake.*,X,p' "$mf" | grep X >/dev/null 2>&1; then
    dirpart=`$as_dirname -- "$mf" ||
$as_expr X"$mf" : 'X\(.*[^\]\)\//[^/][^/]*/*$' \| \
X"$mf" : 'X\(\//\)[^/]' \| \
X"$mf" : 'X\(\//\$' \| \
X"$mf" : 'X\(\//\)' \| . 2>/dev/null ||
$as_echo X"$mf" |
    sed '/^X\(.*[^\]\)\//[^/][^/]*/*$/{
        s//\1/
        q
    }
/^X\(\//\)[^/].*/{
        s//\1/
        q
    }
/^X\(\//\$/{
        s//\1/
        q
    }
/^X\(\//\).*/{
        s//\1/
        q
    }
s/.*/./; q'`
```

```

    else
        continue
    fi
# Extract the definition of DEPDIR, am__include, and am__quote
# from the Makefile without running 'make'.
DEPDIR=`sed -n 's/^DEPDIR = //p' < "$mf"`
test -z "$DEPDIR" && continue
am__include=`sed -n 's/^am__include = //p' < "$mf"`
test -z "$am__include" && continue
am__quote=`sed -n 's/^am__quote = //p' < "$mf"`
# Find all dependency output files, they are included files with
# $(DEPDIR) in their names. We invoke sed twice because it is the
# simplest approach to changing $(DEPDIR) to its actual value in the
# expansion.
for file in `sed -n "
    s/^$am__include $am__quote\(.*(DEPDIR).*\)$am__quote\"$/\1/p' < "$mf" | \
sed -e 's/$(DEPDIR)/*$DEPDIR/g'; do
    # Make sure the directory exists.
    test -f "$dirpart/$file" && continue
    fdir=`as dirname -- "$file" ||
$as_expr X"$file" : 'X\(*[^/]\)//*[^/][^/]*/*$' \| \
X"$file" : 'X\((//)\[^/\]' \| \
X"$file" : 'X\((//)\$' \| \
X"$file" : 'X\((/\)' \| . 2>/dev/null ||
$as_echo X"$file" |
    sed '/^X\(*[^/]\)//*[^/][^/]*/*$/{
        s//\1/
        q
    }
/^X\((//)\[^/\].*/{
    s//\1/
    q
}
/^X\((//)\$|{
    s//\1/
    q
}
/^X\((/\).*/{
    s//\1/
    q
}
s/.*/./; q'`|
    as_dir=$dirpart/$fdir; as_fn_mkdir_p
    # echo "creating $dirpart/$file"
    echo '# dummy' > "$dirpart/$file"
done
done
done
;;
esac
done # for ac_tag

as_fn_exit 0
_ACEOF
ac_clean_files=$ac_clean_files_save

test $ac_write_fail = 0 ||
as_fn_error $? "write failure creating $CONFIG_STATUS" "$LINENO" 5

```

```

# configure is writing to config.log, and then calls config.status.
# config.status does its own redirection, appending to config.log.
# Unfortunately, on DOS this fails, as config.log is still kept open
# by configure, so config.status won't be able to write to it; its
# output is simply discarded. So we exec the FD to /dev/null,
# effectively closing config.log, so it can be properly (re)opened and
# appended to by config.status. When coming back to configure, we
# need to make the FD available again.
if test "$no_create" != yes; then
    ac_cs_success=:
    ac_config_status_args=
    test "$silent" = yes &&
        ac_config_status_args="$ac_config_status_args --quiet"
    exec 5>/dev/null
    $SHELL $CONFIG_STATUS $ac_config_status_args || ac_cs_success=false
    exec 5>>config.log
    # Use ||, not &&, to avoid exiting from the if with $? = 1, which
    # would make configure fail if this is the last instruction.
    $ac_cs_success || as_fn_exit 1
fi
if test -n "$ac_unrecognized_opts" && test "$enable_option_checking" != no; then
    { as_echo "$as_me:${as_lineno-$LINENO}: WARNING: unrecognized options:
$ac_unrecognized_opts" >&5
    as_echo "$as_me: WARNING: unrecognized options: $ac_unrecognized_opts" >&2; }
fi

```

4 Тестовые примеры работы программ

4.1 Запуск №1 (с помощью loopback; сервер – WSL Ubuntu 18.04, GCC; клиент – Windows 10, MSVC)

4.1.1. Сборка с помощью autotools на сервере

```
vladislav@DESKTOP-ODR692H:/mnt/c/Users/vladislav/Projects/SystemProgramming/0x0A/Lab_05
vladislav@DESKTOP-ODR692H:/mnt/c/Users/vladislav/Projects/SystemProgramming/0x0A/Lab_05$ uname -a
Linux DESKTOP-ODR692H 4.4.0-18362-Microsoft #476-Microsoft Fri Nov 01 16:53:00 PST 2019 x86_64 x86_64 x86_64 GNU/Linux
vladislav@DESKTOP-ODR692H:/mnt/c/Users/vladislav/Projects/SystemProgramming/0x0A/Lab_05$ gcc --version
gcc (Ubuntu 7.4.0-1ubuntu1~18.04.1) 7.4.0
Copyright (C) 2017 Free Software Foundation, Inc.
This is free software; see the source for copying conditions. There is NO
warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.

vladislav@DESKTOP-ODR692H:/mnt/c/Users/vladislav/Projects/SystemProgramming/0x0A/Lab_05$ ./configure
checking for gcc... gcc
checking whether the C compiler works... yes
checking for C compiler default output file name... a.out
checking for suffix of executables.
checking whether we are cross compiling... no
checking for suffix of object files... o
checking whether we are using the GNU C compiler... yes
checking whether gcc accepts -g... yes
checking for gcc option to accept ISO C89... none needed
checking whether gcc understands -c and -o together... yes
checking how to run the C preprocessor... gcc -E
checking for grep that handles long lines and -e... /bin/grep
checking for egrep... /bin/grep -E
checking for ANSI C header files... yes
checking for sys/types.h... yes
checking for sys/stat.h... yes
checking for stdlib.h... yes
checking for string.h... yes
checking for memory.h... yes
checking for strings.h... yes
checking for inttypes.h... yes
```

Рисунок 1 – Запуск ./configure

```
vladislav@DESKTOP-ODR692H:/mnt/c/Users/vladislav/Projects/SystemProgramming/0x0A/Lab_05
checking for a BSD-compatible install... /usr/bin/install -c
checking whether build environment is sane... yes
checking for a thread-safe mkdir -p... /bin/mkdir -p
checking for gawk... gawk
checking whether make sets $(MAKE)... yes
checking for style of include used by make... GNU
checking whether make supports nested variables... yes
checking dependency style of gcc... gcc3
checking for ranlib... ranlib
checking that generated files are newer than configure... done
configure: creating ./config.status
config.status: creating build/Makefile
config.status: creating Makefile
config.status: executing depfiles commands
vladislav@DESKTOP-ODR692H:/mnt/c/Users/vladislav/Projects/SystemProgramming/0x0A/Lab_05$ make
Making all in build
make[1]: Entering directory '/mnt/c/Users/vladislav/Projects/SystemProgramming/0x0A/Lab_05/build'
gcc -DPACKAGE_NAME=\"Lab_05\" -DPACKAGE_TARNAME=\"Lab_05\" -DPACKAGE_VERSION=\"3.0\" -DPACKAGE_STRING=\"Lab_05\ 3.0\" -DPACKAGE_BUGREPORT=\"misterptits@yandex.ru\" -DPACKAGE_URL=\"\" -DSTDC_HEADERS=1 -DHAVE_SYS_TYPES_H=1 -DHAVE_SYS_STAT_H=1 -DHAVE_STDLIB_H=1 -DHAVE_STRING_H=1 -DHAVE_MEMORY_H=1 -DHAVE_STRINGS_H=1 -DHAVE_INTTYPES_H=1 -DHAVE_STDINT_H=1 -DHAVE_U
NISTD_H=1 -DHAVE_ARPA_INET_H=1 -DHAVE_FCNTL_H=1 -DHAVE_LIMITS_H=1 -DHAVE_MALLOC_H=1 -DHAVE_NETINET_IN_H=1 -DHAVE_STDEOF_H=1 -DHAVE_STDINT_H=1 -DHAVE_STDLIB_H=1 -DHAVE_STRING_H=1 -DHAVE_SYS_SOCKET_H=1 -DHAVE_UNISTD_H=1 -DHAVE_BOOL=1 -DHAVE_STDLIB_H=1 -DHAVE_MALLOC=1 -DHAVE_STDLIB_H=1 -DHAVE_REALLOC=1 -DHAVE_DECL_STRError_R=1 -DHAVE_STRError_R=1 -DHAVE_SOCKET_=1 -DHAVE_STRCHR=1 -DPACKAGE=\"Lab_05\" -DVERSION=\"3.0\" -I.. -I..../Lab_05_MatrixLib -std=gnu99 -g -O2 -MT ../_libLab_05_Lib_a-Utils.o -MD -MP -MF ../_libLab_05_Lib_a-Utils.Tpo -c -o ../_libLab_05_Lib_a-Utils.c
libLab_05_Lib_a-Utils.o: test -f ../_libLab_05_Lib_a-Utils.c || echo './' ../_libLab_05_Lib_a-Utils.c
mv -f ../_libLab_05_Lib_a-Utils.Tpo ../_libLab_05_Lib_a-Utils.Po
gcc -DPACKAGE_NAME=\"Lab_05\" -DPACKAGE_TARNAME=\"Lab_05\" -DPACKAGE_VERSION=\"3.0\" -DPACKAGE_STRING=\"Lab_05\ 3.0\" -DPACKAGE_BUGREPORT=\"misterptits@yandex.ru\" -DPACKAGE_URL=\"\" -DSTDC_HEADERS=1 -DHAVE_SYS_TYPES_H=1 -DHAVE_SYS_STAT_H=1 -DHAVE_STDLIB_H=1 -DHAVE_STRING_H=1 -DHAVE_MEMORY_H=1 -DHAVE_STRINGS_H=1 -DHAVE_INTTYPES_H=1 -DHAVE_STDINT_H=1 -DHAVE_U
```

Рисунок 2 – Конец работы ./configure, запуск make

```

vladislav@DESKTOP-ODR692H:/mnt/c/Users/vladislav/Projects/SystemProgramming/0x0A/Lab_05
./Lab_05_Server/Lab_05_Server-ServerArgs.o `test -f '../Lab_05_Server/ServerArgs.c' || echo './'`../Lab_05_Server/ServerArgs.c
mv -f ../Lab_05_Server/.deps/Lab_05_Server-ServerArgs.Tpo ../Lab_05_Server/.deps/Lab_05_Server-ServerArgs.Po
gcc -DPACKAGE_NAME=\"Lab_05\" -DPACKAGE_TARNAME=\"Lab_05\" -DPACKAGE_VERSION=\"3.0\" -DPACKAGE_STRING=\"Lab_05_3.0\" -DPACKAGE_BUGREPORT=\"misterptits@yandex.ru\" -DPACKAGE_URL=\"\" -DSTDC_HEADERS=1 -DHAVE_SYS_TYPES_H=1 -DHAVE_SYS_STAT_H=1 -DHAVE_STDLIB_H=1 -DHAVE_STRING_H=1 -DHAVE_MEMORY_H=1 -DHAVE_STRINGS_H=1 -DHAVE_INTTYPES_H=1 -DHAVE_STDINT_H=1 -DHAVE_UNISTD_H=1 -DHAVE_ARPA_INET_H=1 -DHAVE_FCNTL_H=1 -DHAVE_LIMITS_H=1 -DHAVE_MALLOC_H=1 -DHAVE_NETINET_IN_H=1 -DHAVE_STDEDEF_H=1 -DHAVE_STDLIB_H=1 -DHAVE_MALLOC=1 -DHAVE_STDLIB_H=1 -DHAVE_REALLOC=1 -DHAVE_DECL_STRError_R=1 -DHAVE_STRError_R=1 -DHAVE_SOCKET=1 -DHAVE_STRCHR=1 -DPACKAGE=\"Lab_05\" -DVERSION=\"3.0\" -I. -I../Lab_05_MatrixLib -I..../Lab_05_Lib -std=gnu99 -g -O2 -MT ..../Lab_05_Server/Lab_05_Server.o -MD -MP -MF ..../Lab_05_Server/.deps/Lab_05_Server-Server.Tpo -c -o ..../Lab_05_Server/Lab_05_Server-Server.o `test -f '../Lab_05_Server/Server.c' || echo './'`../Lab_05_Server/Server.c
mv -f ..../Lab_05_Server/.deps/Lab_05_Server-Server.Tpo ..../Lab_05_Server/.deps/Lab_05_Server-Server.Po
gcc -DPACKAGE_NAME=\"Lab_05\" -DPACKAGE_TARNAME=\"Lab_05\" -DPACKAGE_VERSION=\"3.0\" -DPACKAGE_STRING=\"Lab_05_3.0\" -DPACKAGE_BUGREPORT=\"misterptits@yandex.ru\" -DPACKAGE_URL=\"\" -DSTDC_HEADERS=1 -DHAVE_SYS_TYPES_H=1 -DHAVE_SYS_STAT_H=1 -DHAVE_STDLIB_H=1 -DHAVE_STRING_H=1 -DHAVE_MEMORY_H=1 -DHAVE_STRINGS_H=1 -DHAVE_INTTYPES_H=1 -DHAVE_STDINT_H=1 -DHAVE_UNISTD_H=1 -DHAVE_ARPA_INET_H=1 -DHAVE_FCNTL_H=1 -DHAVE_LIMITS_H=1 -DHAVE_MALLOC_H=1 -DHAVE_NETINET_IN_H=1 -DHAVE_STDEDEF_H=1 -DHAVE_STDLIB_H=1 -DHAVE_MALLOC=1 -DHAVE_STDLIB_H=1 -DHAVE_REALLOC=1 -DHAVE_DECL_STRError_R=1 -DHAVE_STRError_R=1 -DHAVE_SOCKET=1 -DHAVE_STRCHR=1 -DPACKAGE=\"Lab_05\" -DVERSION=\"3.0\" -I. -I../Lab_05_MatrixLib -I..../Lab_05_Lib -std=gnu99 -g -O2 -MT ..../Lab_05_Server/Lab_05_Server-main.o -MD -MP -MF ..../Lab_05_Server/.deps/Lab_05_Server-main.Tpo -c -o ..../Lab_05_Server/Lab_05_Server-main.o `test -f '../Lab_05_Server/main.c' || echo './'`../Lab_05_Server/main.c
mv -f ..../Lab_05_Server/.deps/Lab_05_Server-main.Tpo ..../Lab_05_Server/.deps/Lab_05_Server-main.Po
gcc -I../Lab_05_MatrixLib -I..../Lab_05_Lib -std=gnu99 -g -O2 -o Lab_05_Server ..../Lab_05_Server/Lab_05_Server-ServerArgs.o ..../Lab_05_Server/Lab_05_Server-Server.o ..../Lab_05_Server/Lab_05_Server-main.o libLab_05_MatrixLib.a libLab_05_Lib.a
make[1]: Leaving directory '/mnt/c/Users/vladislav/Projects/SystemProgramming/0x0A/Lab_05/build'
make[1]: Entering directory '/mnt/c/Users/vladislav/Projects/SystemProgramming/0x0A/Lab_05'
make[1]: Nothing to be done for 'all-am'.
make[1]: Leaving directory '/mnt/c/Users/vladislav/Projects/SystemProgramming/0x0A/Lab_05'
vladislav@DESKTOP-ODR692H:/mnt/c/Users/vladislav/Projects/SystemProgramming/0x0A/Lab_05$
```

Рисунок 3 – Результат работы make

4.1.2. Сборка с помощью CMake и MSBuild на клиенте

```

PowerShell 6 (x64)
PS C:\Users\vladislav\Projects\SystemProgramming\0x0A\Lab_05> mkdir buildcmake
Directory: C:\Users\vladislav\Projects\SystemProgramming\0x0A\Lab_05

Mode          LastWriteTime      Length Name
----          <-----          ----- 
d----

```

Рисунок 4 – Запуск cmake

```
PowerShell 6 (x64)
-- Detecting CXX compile features - done
-- Configuring done
-- Generating done
-- Build files have been written to: C:/Users/vladislav/Projects/SystemProgramming/0x0A/Lab_05/buildcmake
PS C:\Users\vladislav\Projects\SystemProgramming\0x0A\Lab_05\buildcmake> msbuild .\ALL_BUILD.vcxproj
Microsoft (R) Build Engine version 16.4.0-preview-19502-03+3af680463 for .NET Framework
Copyright (C) Microsoft Corporation. All rights reserved.

Build started 24.11.2019 23:41:38.
Project "C:\Users\vladislav\Projects\SystemProgramming\0x0A\Lab_05\buildcmake\ALL_BUILD.vcxproj" on node 1 (default targets).
Project "C:\Users\vladislav\Projects\SystemProgramming\0x0A\Lab_05\buildcmake\ALL_BUILD.vcxproj" (1) is building "C:\Users\vladislav\Projects\SystemProgramming\0x0A\Lab_05\buildcmake\ZERO_CHECK.vcxproj" (2) on node 1 (default targets).
PrepareForBuild:
  Creating directory "x64\Debug\ZERO_CHECK".
  Creating directory "x64\Debug\ZERO_CHECK\ZERO_CHECK.tlog".
InitializeBuildStatus:
  Creating "x64\Debug\ZERO_CHECK\ZERO_CHECK.tlog\unsuccessfulbuild" because "AlwaysCreate" was specified.
CustomBuild:
  Checking Build System
FinalizeBuildStatus:
  Deleting file "x64\Debug\ZERO_CHECK\ZERO_CHECK.tlog\unsuccessfulbuild".
  Touching "x64\Debug\ZERO_CHECK\ZERO_CHECK.tlog\ZERO_CHECK.lastbuildstate".
Done Building Project "C:\Users\vladislav\Projects\SystemProgramming\0x0A\Lab_05\buildcmake\ZERO_CHECK.vcxproj" (default targets).

Project "C:\Users\vladislav\Projects\SystemProgramming\0x0A\Lab_05\buildcmake\ALL_BUILD.vcxproj" (1) is building "C:\Users\vladislav\Projects\SystemProgramming\0x0A\Lab_05\buildcmake\Lab_05_Client\Lab_05_Client.vcxproj" (3) on node 1 (default targets).
Project "C:\Users\vladislav\Projects\SystemProgramming\0x0A\Lab_05\buildcmake\Lab_05_Client\Lab_05_Client.vcxproj" (3)
```

Рисунок 5 – Запуск msbuild

```
PowerShell 6 (x64)
"C:\Users\vladislav\Projects\SystemProgramming\0x0A\Lab_05\buildcmake\ALL_BUILD.vcxproj" (default target) (1) ->
"C:\Users\vladislav\Projects\SystemProgramming\0x0A\Lab_05\buildcmake\Lab_05_Client\Lab_05_Client.vcxproj" (default target) (3) ->
  C:\Users\vladislav\Projects\SystemProgramming\0x0A\Lab_05\Lab_05_Client\Client.c(27,1): warning C4244: 'initializing' : conversion from 'SocketHandle' to 'int', possible loss of data [C:\Users\vladislav\Projects\SystemProgramming\0x0A\Lab_05\buildcmake\Lab_05_Client\Lab_05_Client.vcxproj]
  C:\Users\vladislav\Projects\SystemProgramming\0x0A\Lab_05\Lab_05_Client\Client.c(34,1): warning C4996: 'inet_addr': Use inet_pton() or InetPtton() instead or define _WINSOCK_DEPRECATED_NO_WARNINGS to disable deprecated API warnings [C:\Users\vladislav\Projects\SystemProgramming\0x0A\Lab_05\buildcmake\Lab_05_Client\Lab_05_Client.vcxproj]
  C:\Users\vladislav\Projects\SystemProgramming\0x0A\Lab_05\Lab_05_Client\ClientArgs.c(87,1): warning C4996: 'strcpy': This function or variable may be unsafe. Consider using strcpy_s instead. To disable deprecation, use _CRT_SECURE_NO_WARNINGS. See online help for details. [C:\Users\vladislav\Projects\SystemProgramming\0x0A\Lab_05\buildcmake\Lab_05_Client\Lab_05_Client.vcxproj]

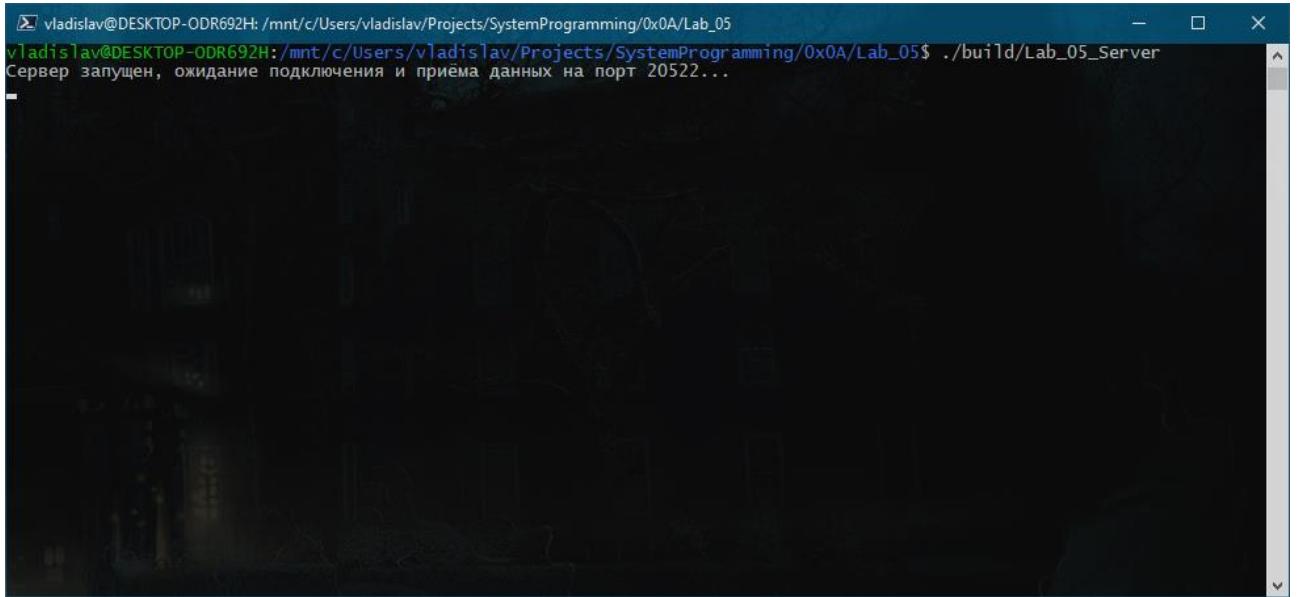
"C:\Users\vladislav\Projects\SystemProgramming\0x0A\Lab_05\buildcmake\ALL_BUILD.vcxproj" (default target) (1) ->
"C:\Users\vladislav\Projects\SystemProgramming\0x0A\Lab_05\buildcmake\Lab_05_Server\Lab_05_Server.vcxproj" (default target) (7) ->
  C:\Users\vladislav\Projects\SystemProgramming\0x0A\Lab_05\Lab_05_Server\Server.c(20,1): warning C4244: 'initializing' : conversion from 'SocketHandle' to 'int', possible loss of data [C:\Users\vladislav\Projects\SystemProgramming\0x0A\Lab_05\buildcmake\Lab_05_Server\Lab_05_Server.vcxproj]
  C:\Users\vladislav\Projects\SystemProgramming\0x0A\Lab_05\Lab_05_Server\Server.c(71,1): warning C4244: 'initializing' : conversion from 'SocketHandle' to 'int', possible loss of data [C:\Users\vladislav\Projects\SystemProgramming\0x0A\Lab_05\buildcmake\Lab_05_Server\Lab_05_Server.vcxproj]

15 Warning(s)
0 Error(s)

Time Elapsed 00:00:05.85
PS C:\Users\vladislav\Projects\SystemProgramming\0x0A\Lab_05\buildcmake>
```

Рисунок 6 – Конец работы msbuild

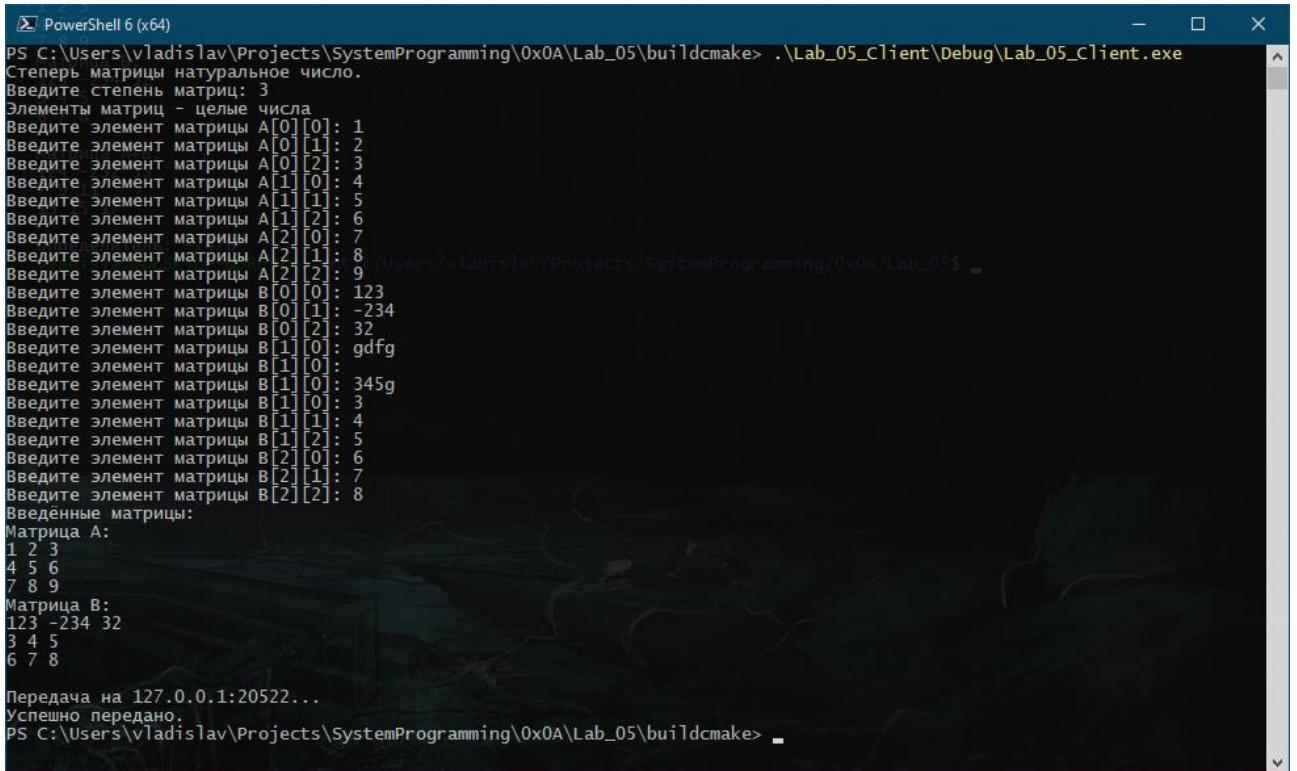
4.1.3. Запуск сервера



vladislav@DESKTOP-ODR692H:/mnt/c/Users/vladislav/Projects/SystemProgramming/0x0A/Lab_05
vladislav@DESKTOP-ODR692H:/mnt/c/Users/vladislav/Projects/SystemProgramming/0x0A/Lab_05\$./build/Lab_05_Server
Сервер запущен, ожидание подключения и приёма данных на порт 20522...

Рисунок 7 – Сервер ожидает подключения от клиента

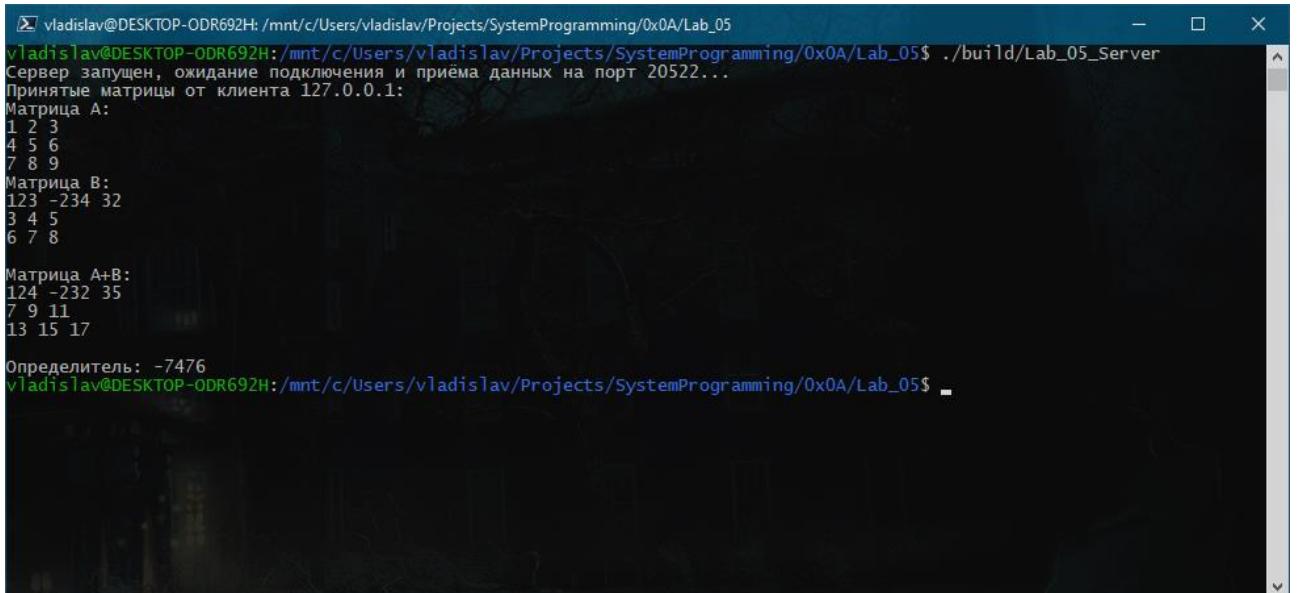
4.1.4. Запуск клиента



PowerShell 6 (x64)
PS C:\Users\vladislav\Projects\SystemProgramming\0x0A\Lab_05\buildcmake> .\Lab_05_Client\Debug\Lab_05_Client.exe
Степерь матрицы натуральное число.
Введите степень матриц: 3
Элементы матриц - целые числа
Введите элемент матрицы A[0][0]: 1
Введите элемент матрицы A[0][1]: 2
Введите элемент матрицы A[0][2]: 3
Введите элемент матрицы A[1][0]: 4
Введите элемент матрицы A[1][1]: 5
Введите элемент матрицы A[1][2]: 6
Введите элемент матрицы A[2][0]: 7
Введите элемент матрицы A[2][1]: 8
Введите элемент матрицы A[2][2]: 9
Введите элемент матрицы B[0][0]: 123
Введите элемент матрицы B[0][1]: -234
Введите элемент матрицы B[0][2]: 32
Введите элемент матрицы B[1][0]: gdfg
Введите элемент матрицы B[1][0]:
Введите элемент матрицы B[1][0]: 345g
Введите элемент матрицы B[1][0]: 3
Введите элемент матрицы B[1][1]: 4
Введите элемент матрицы B[1][2]: 5
Введите элемент матрицы B[2][0]: 6
Введите элемент матрицы B[2][1]: 7
Введите элемент матрицы B[2][2]: 8
Введённые матрицы:
Матрица A:
1 2 3
4 5 6
7 8 9
Матрица B:
123 -234 32
3 4 5
6 7 8
Передача на 127.0.0.1:20522...
Успешно передано.
PS C:\Users\vladislav\Projects\SystemProgramming\0x0A\Lab_05\buildcmake>

Рисунок 8 – Клиент считал данные, передал и успешно завершился

4.1.5. Результат работы сервера

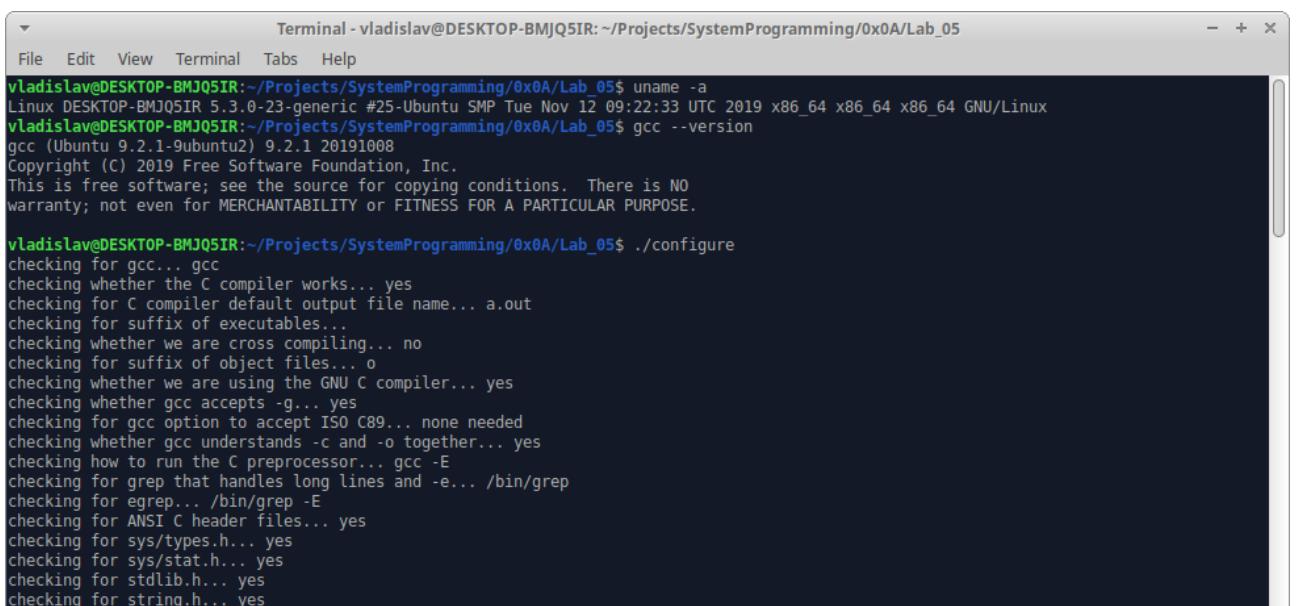


```
vladislav@DESKTOP-ODR692H:/mnt/c/Users/vladislav/Projects/SystemProgramming/0x0A/Lab_05
vladislav@DESKTOP-ODR692H:/mnt/c/Users/vladislav/Projects/SystemProgramming/0x0A/Lab_05$ ./build/Lab_05_Server
Сервер запущен, ожидание подключения и приёма данных на порт 20522...
Принятые матрицы от клиента 127.0.0.1:
Матрица A:
1 2 3
4 5 6
7 8 9
Матрица B:
123 -234 32
3 4 5
6 7 8
Матрица A+B:
124 -232 35
7 9 11
13 15 17
Определитель: -7476
vladislav@DESKTOP-ODR692H:/mnt/c/Users/vladislav/Projects/SystemProgramming/0x0A/Lab_05$
```

Рисунок 9 – Сервер принял, вычислил, вывел результат и успешно завершился

4.2 Запуск №2 (по локальной сети; сервер – Ubuntu 19.10, GCC; клиент – Windows 10, Clang)

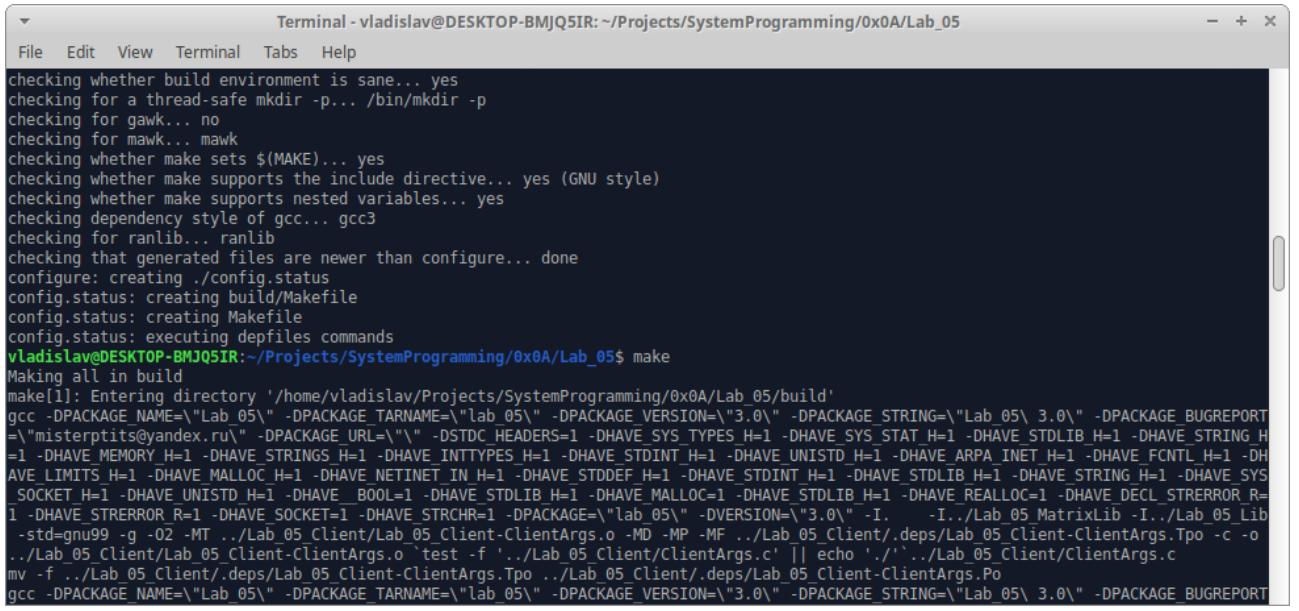
4.2.1. Сборка на сервере с помощью autotools



```
Terminal - vladislav@DESKTOP-BMJQ5IR:~/Projects/SystemProgramming/0x0A/Lab_05
File Edit View Terminal Tabs Help
vladislav@DESKTOP-BMJQ5IR:~/Projects/SystemProgramming/0x0A/Lab_05$ uname -a
Linux DESKTOP-BMJQ5IR 5.3.0-23-generic #25-Ubuntu SMP Tue Nov 12 09:22:33 UTC 2019 x86_64 x86_64 x86_64 GNU/Linux
vladislav@DESKTOP-BMJQ5IR:~/Projects/SystemProgramming/0x0A/Lab_05$ gcc --version
gcc (Ubuntu 9.2.1-9ubuntu2) 9.2.1 20191008
Copyright (C) 2019 Free Software Foundation, Inc.
This is free software; see the source for copying conditions. There is NO
warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.

vladislav@DESKTOP-BMJQ5IR:~/Projects/SystemProgramming/0x0A/Lab_05$ ./configure
checking for gcc... gcc
checking whether the C compiler works... yes
checking for C compiler default output file name... a.out
checking for suffix of executables...
checking whether we are cross compiling... no
checking for suffix of object files... o
checking whether we are using the GNU C compiler... yes
checking whether gcc accepts -g... yes
checking for gcc option to accept ISO C89... none needed
checking whether gcc understands -c and -o together... yes
checking how to run the C preprocessor... gcc -E
checking for grep that handles long lines and -e... /bin/grep
checking for egrep... /bin/grep -E
checking for ANSI C header files... yes
checking for sys/types.h... yes
checking for sys/stat.h... yes
checking for stdlib.h... yes
checking for string.h... yes
```

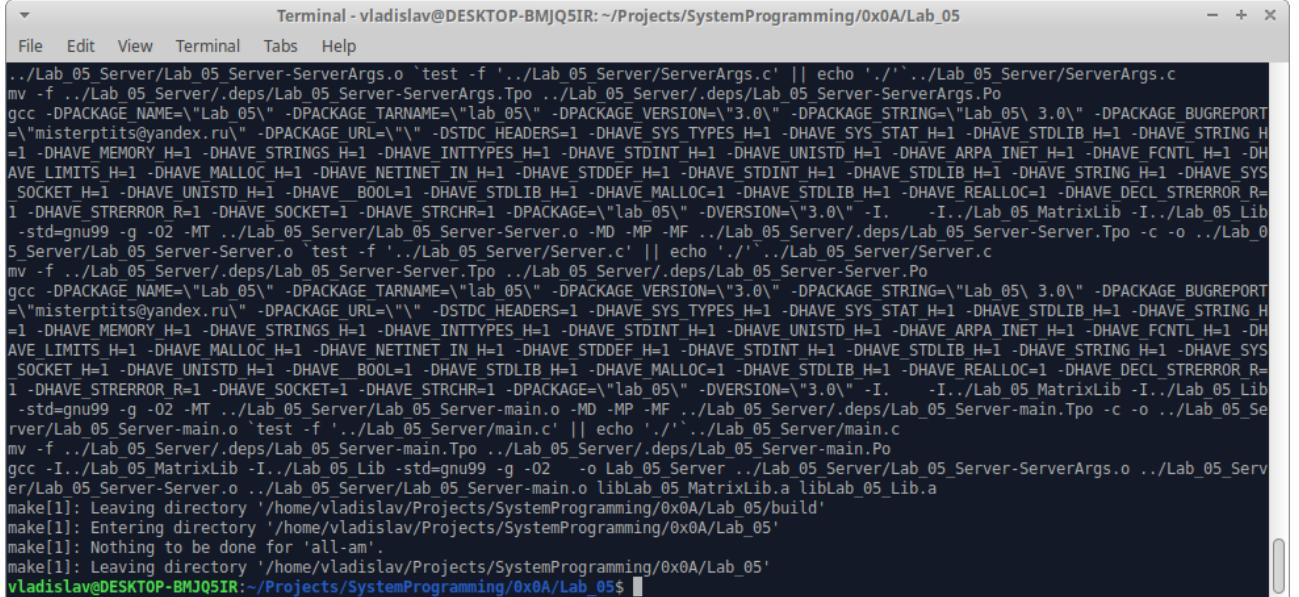
Рисунок 10 – Запуск ./configure



```

Terminal - vladislav@DESKTOP-BMJQ5IR: ~/Projects/SystemProgramming/0x0A/Lab_05
File Edit View Terminal Tabs Help
checking whether build environment is sane... yes
checking for a thread-safe mkdir -p... /bin/mkdir -p
checking for gawk... no
checking for mawk... mawk
checking whether make sets $(MAKE)... yes
checking whether make supports the include directive... yes (GNU style)
checking whether make supports nested variables... yes
checking dependency style of gcc... gcc3
checking for ranlib... ranlib
checking that generated files are newer than configure... done
configure: creating ./config.status
config.status: creating build/Makefile
config.status: creating Makefile
config.status: executing depfiles commands
vladislav@DESKTOP-BMJQ5IR:~/Projects/SystemProgramming/0x0A/Lab_05$ make
Making all in build
make[1]: Entering directory '/home/vladislav/Projects/SystemProgramming/0x0A/Lab_05/build'
gcc -DPACKAGE_NAME=\"Lab_05\" -DPACKAGE_TARNAME=\"Lab_05\" -DPACKAGE_VERSION=\"3.0\" -DPACKAGE_STRING=\"Lab_05\ 3.0\" -DPACKAGE_BUGREPORT
=\\\"misterptits@yandex.ru\\\" -DPACKAGE_URL=\"\" -DSTDC_HEADERS=1 -DHAVE_SYS_TYPES_H=1 -DHAVE_SYS_STAT_H=1 -DHAVE_STDLIB_H=1 -DHAVE_STRING_H
=1 -DHAVE_MEMORY_H=1 -DHAVE_STRINGS_H=1 -DHAVE_INTTYPES_H=1 -DHAVE_STDINT_H=1 -DHAVE_UNISTD_H=1 -DHAVE_ARPA_INET_H=1 -DHAVE_FCNTL_H=1 -DHAVE_AVE_LIMITS_H=1 -DHAVE_MALLOC_H=1 -DHAVE_NETINET_IN_H=1 -DHAVE_STDDEF_H=1 -DHAVE_STDINT_H=1 -DHAVE_STDLIB_H=1 -DHAVE_STRING_H=1 -DHAVE_SYS_SOCKET_H=1 -DHAVE_UNISTD_H=1 -DHAVE_BOOL=1 -DHAVE_STDLIB_H=1 -DHAVE_MALLOC_C=1 -DHAVE_STDLIB_H=1 -DHAVE_REALLOC_C=1 -DHAVE_DECL_STRError_R=1 -DHAVE_STRError_R=1 -DHAVE_SOCKET=1 -DHAVE_STRCHR=1 -DPACKAGE=\"lab_05\" -DVERSION=\"3.0\" -I..../Lab_05_MatrixLib -I..../Lab_05_Lib -std-gnu99 -g -O2 -MT ..../Lab_05_Client/Lab_05_Client-ClientArgs.o -MD -MP -MF ..../Lab_05_Client/.deps/Lab_05_Client-ClientArgs.Tpo -c -o ..../Lab_05_Client/Lab_05_Client-ClientArgs.o `test -f '../Lab_05_Client/ClientArgs.c' || echo './'` ..../Lab_05_Client/ClientArgs.c
mv -f ..../Lab_05_Client/.deps/Lab_05_Client-ClientArgs.Tpo ..../Lab_05_Client/.deps/Lab_05_Client-ClientArgs.Po
gcc -DPACKAGE_NAME=\"Lab_05\" -DPACKAGE_TARNAME=\"Lab_05\" -DPACKAGE_VERSION=\"3.0\" -DPACKAGE_STRING=\"Lab_05\ 3.0\" -DPACKAGE_BUGREPORT
=\\\"misterptits@yandex.ru\\\" -DPACKAGE_URL=\"\" -DSTDC_HEADERS=1 -DHAVE_SYS_TYPES_H=1 -DHAVE_SYS_STAT_H=1 -DHAVE_STDLIB_H=1 -DHAVE_STRING_H
=1 -DHAVE_MEMORY_H=1 -DHAVE_STRINGS_H=1 -DHAVE_INTTYPES_H=1 -DHAVE_STDINT_H=1 -DHAVE_UNISTD_H=1 -DHAVE_ARPA_INET_H=1 -DHAVE_FCNTL_H=1 -DHAVE_AVE_LIMITS_H=1 -DHAVE_MALLOC_H=1 -DHAVE_NETINET_IN_H=1 -DHAVE_STDDEF_H=1 -DHAVE_STDINT_H=1 -DHAVE_STDLIB_H=1 -DHAVE_STRING_H=1 -DHAVE_SYS_SOCKET_H=1 -DHAVE_UNISTD_H=1 -DHAVE_BOOL=1 -DHAVE_STDLIB_H=1 -DHAVE_MALLOC_C=1 -DHAVE_STDLIB_H=1 -DHAVE_REALLOC_C=1 -DHAVE_DECL_STRError_R=1 -DHAVE_STRError_R=1 -DHAVE_SOCKET=1 -DHAVE_STRCHR=1 -DPACKAGE=\"lab_05\" -DVERSION=\"3.0\" -I..../Lab_05_MatrixLib -I..../Lab_05_Lib -std-gnu99 -g -O2 -MT ..../Lab_05_Server/Lab_05_Server-Server.o -MD -MP -MF ..../Lab_05_Server/.deps/Lab_05_Server-Server.Tpo -c -o ..../Lab_05_Server/Lab_05_Server-Server.o `test -f '../Lab_05_Server/Server.c' || echo './'` ..../Lab_05_Server/Server.c
mv -f ..../Lab_05_Server/.deps/Lab_05_Server-Server.Tpo ..../Lab_05_Server/.deps/Lab_05_Server-Server.Po
gcc -DPACKAGE_NAME=\"Lab_05\" -DPACKAGE_TARNAME=\"Lab_05\" -DPACKAGE_VERSION=\"3.0\" -DPACKAGE_STRING=\"Lab_05\ 3.0\" -DPACKAGE_BUGREPORT
=\\\"misterptits@yandex.ru\\\" -DPACKAGE_URL=\"\" -DSTDC_HEADERS=1 -DHAVE_SYS_TYPES_H=1 -DHAVE_SYS_STAT_H=1 -DHAVE_STDLIB_H=1 -DHAVE_STRING_H
=1 -DHAVE_MEMORY_H=1 -DHAVE_STRINGS_H=1 -DHAVE_INTTYPES_H=1 -DHAVE_STDINT_H=1 -DHAVE_UNISTD_H=1 -DHAVE_ARPA_INET_H=1 -DHAVE_FCNTL_H=1 -DHAVE_AVE_LIMITS_H=1 -DHAVE_MALLOC_H=1 -DHAVE_NETINET_IN_H=1 -DHAVE_STDDEF_H=1 -DHAVE_STDINT_H=1 -DHAVE_STDLIB_H=1 -DHAVE_STRING_H=1 -DHAVE_SYS_SOCKET_H=1 -DHAVE_UNISTD_H=1 -DHAVE_BOOL=1 -DHAVE_STDLIB_H=1 -DHAVE_MALLOC_C=1 -DHAVE_STDLIB_H=1 -DHAVE_REALLOC_C=1 -DHAVE_DECL_STRError_R=1 -DHAVE_STRError_R=1 -DHAVE_SOCKET=1 -DHAVE_STRCHR=1 -DPACKAGE=\"lab_05\" -DVERSION=\"3.0\" -I..../Lab_05_MatrixLib -I..../Lab_05_Lib -std-gnu99 -g -O2 -MT ..../Lab_05_Server/Lab_05_Server-main.o -MD -MP -MF ..../Lab_05_Server/.deps/Lab_05_Server-main.Tpo -c -o ..../Lab_05_Server/Lab_05_Server-main.c `test -f '../Lab_05_Server/main.c' || echo './'` ..../Lab_05_Server/main.c
mv -f ..../Lab_05_Server/.deps/Lab_05_Server-main.Tpo ..../Lab_05_Server/.deps/Lab_05_Server-main.Po
gcc -I..../Lab_05_MatrixLib -I..../Lab_05_Lib -std-gnu99 -g -O2 -o Lab_05_Server ..../Lab_05_Server/Lab_05_Server-ServerArgs.o ..../Lab_05_Server/Lab_05_Server-Server.o ..../Lab_05_Server/Lab_05_Server.main.o libLab_05_MatrixLib.a libLab_05_Lib.a
make[1]: Leaving directory '/home/vladislav/Projects/SystemProgramming/0x0A/Lab_05/build'
make[1]: Entering directory '/home/vladislav/Projects/SystemProgramming/0x0A/Lab_05'
make[1]: Nothing to be done for 'all-am'.
make[1]: Leaving directory '/home/vladislav/Projects/SystemProgramming/0x0A/Lab_05'
vladislav@DESKTOP-BMJQ5IR:~/Projects/SystemProgramming/0x0A/Lab_05$ 
```

Рисунок 11 – Конец работы ./configure и запуск make



```

Terminal - vladislav@DESKTOP-BMJQ5IR: ~/Projects/SystemProgramming/0x0A/Lab_05
File Edit View Terminal Tabs Help
./Lab_05_Server/Lab_05_Server-ServerArgs.o `test -f '../Lab_05_Server/ServerArgs.c' || echo './'` ..../Lab_05_Server/ServerArgs.c
mv -f ..../Lab_05_Server/.deps/Lab_05_Server-ServerArgs.Tpo ..../Lab_05_Server/.deps/Lab_05_Server-ServerArgs.Po
gcc -DPACKAGE_NAME=\"Lab_05\" -DPACKAGE_TARNAME=\"Lab_05\" -DPACKAGE_VERSION=\"3.0\" -DPACKAGE_STRING=\"Lab_05\ 3.0\" -DPACKAGE_BUGREPORT
=\\\"misterptits@yandex.ru\\\" -DPACKAGE_URL=\"\" -DSTDC_HEADERS=1 -DHAVE_SYS_TYPES_H=1 -DHAVE_SYS_STAT_H=1 -DHAVE_STDLIB_H=1 -DHAVE_STRING_H
=1 -DHAVE_MEMORY_H=1 -DHAVE_STRINGS_H=1 -DHAVE_INTTYPES_H=1 -DHAVE_STDINT_H=1 -DHAVE_UNISTD_H=1 -DHAVE_ARPA_INET_H=1 -DHAVE_FCNTL_H=1 -DHAVE_AVE_LIMITS_H=1 -DHAVE_MALLOC_H=1 -DHAVE_NETINET_IN_H=1 -DHAVE_STDDEF_H=1 -DHAVE_STDINT_H=1 -DHAVE_STDLIB_H=1 -DHAVE_STRING_H=1 -DHAVE_SYS_SOCKET_H=1 -DHAVE_UNISTD_H=1 -DHAVE_BOOL=1 -DHAVE_STDLIB_H=1 -DHAVE_MALLOC_C=1 -DHAVE_STDLIB_H=1 -DHAVE_REALLOC_C=1 -DHAVE_DECL_STRError_R=1 -DHAVE_STRError_R=1 -DHAVE_SOCKET=1 -DHAVE_STRCHR=1 -DPACKAGE=\"lab_05\" -DVERSION=\"3.0\" -I..../Lab_05_MatrixLib -I..../Lab_05_Lib -std-gnu99 -g -O2 -MT ..../Lab_05_Server/Lab_05_Server-Server.o -MD -MP -MF ..../Lab_05_Server/.deps/Lab_05_Server-Server.Tpo -c -o ..../Lab_05_Server/Lab_05_Server-Server.o `test -f '../Lab_05_Server/Server.c' || echo './'` ..../Lab_05_Server/Server.c
mv -f ..../Lab_05_Server/.deps/Lab_05_Server-Server.Tpo ..../Lab_05_Server/.deps/Lab_05_Server-Server.Po
gcc -DPACKAGE_NAME=\"Lab_05\" -DPACKAGE_TARNAME=\"Lab_05\" -DPACKAGE_VERSION=\"3.0\" -DPACKAGE_STRING=\"Lab_05\ 3.0\" -DPACKAGE_BUGREPORT
=\\\"misterptits@yandex.ru\\\" -DPACKAGE_URL=\"\" -DSTDC_HEADERS=1 -DHAVE_SYS_TYPES_H=1 -DHAVE_SYS_STAT_H=1 -DHAVE_STDLIB_H=1 -DHAVE_STRING_H
=1 -DHAVE_MEMORY_H=1 -DHAVE_STRINGS_H=1 -DHAVE_INTTYPES_H=1 -DHAVE_STDINT_H=1 -DHAVE_UNISTD_H=1 -DHAVE_ARPA_INET_H=1 -DHAVE_FCNTL_H=1 -DHAVE_AVE_LIMITS_H=1 -DHAVE_MALLOC_H=1 -DHAVE_NETINET_IN_H=1 -DHAVE_STDDEF_H=1 -DHAVE_STDINT_H=1 -DHAVE_STDLIB_H=1 -DHAVE_STRING_H=1 -DHAVE_SYS_SOCKET_H=1 -DHAVE_UNISTD_H=1 -DHAVE_BOOL=1 -DHAVE_STDLIB_H=1 -DHAVE_MALLOC_C=1 -DHAVE_STDLIB_H=1 -DHAVE_REALLOC_C=1 -DHAVE_DECL_STRError_R=1 -DHAVE_STRError_R=1 -DHAVE_SOCKET=1 -DHAVE_STRCHR=1 -DPACKAGE=\"lab_05\" -DVERSION=\"3.0\" -I..../Lab_05_MatrixLib -I..../Lab_05_Lib -std-gnu99 -g -O2 -MT ..../Lab_05_Server/Lab_05_Server-main.o -MD -MP -MF ..../Lab_05_Server/.deps/Lab_05_Server-main.Tpo -c -o ..../Lab_05_Server/Lab_05_Server-main.c `test -f '../Lab_05_Server/main.c' || echo './'` ..../Lab_05_Server/main.c
mv -f ..../Lab_05_Server/.deps/Lab_05_Server-main.Tpo ..../Lab_05_Server/.deps/Lab_05_Server-main.Po
gcc -I..../Lab_05_MatrixLib -I..../Lab_05_Lib -std-gnu99 -g -O2 -o Lab_05_Server ..../Lab_05_Server/Lab_05_Server-ServerArgs.o ..../Lab_05_Server/Lab_05_Server-Server.o ..../Lab_05_Server/Lab_05_Server.main.o libLab_05_MatrixLib.a libLab_05_Lib.a
make[1]: Leaving directory '/home/vladislav/Projects/SystemProgramming/0x0A/Lab_05/build'
make[1]: Entering directory '/home/vladislav/Projects/SystemProgramming/0x0A/Lab_05'
make[1]: Nothing to be done for 'all-am'.
make[1]: Leaving directory '/home/vladislav/Projects/SystemProgramming/0x0A/Lab_05'
vladislav@DESKTOP-BMJQ5IR:~/Projects/SystemProgramming/0x0A/Lab_05$ 
```

Рисунок 12 – Конец работы make

4.2.2. Сборка на клиенте с помощью CMake и Ninja

```
PS C:\Users\vladislav\Projects\SystemProgramming\0x0A\Lab_05> mkdir buildcmake
Directory: C:\Users\vladislav\Projects\SystemProgramming\0x0A\Lab_05
Mode          LastWriteTime     Length Name
----          -----           -----    ----- 
d---  24.11.2019   23:57           buildcmake
PS C:\Users\vladislav\Projects\SystemProgramming\0x0A\Lab_05> cd buildcmake
PS C:\Users\vladislav\Projects\SystemProgramming\0x0A\Lab_05\buildcmake> cmake -G "Ninja" -DCMAKE_C_COMPILER=clang -DCMAKE_CXX_COMPILER=clang++ -DCMAKE_RC_COMPILER=llvm-rc .
-- The C compiler identification is Clang 9.0.0 with GNU-like command-line
-- The CXX compiler identification is Clang 9.0.0 with GNU-like command-line
-- Check for working C compiler: C:/Program Files/LLVM/bin/clang.exe
-- Check for working C compiler: C:/Program Files/LLVM/bin/clang.exe -- works
-- Detecting C compiler ABI info
-- Detecting C compiler ABI info - done
-- Detecting C compile features
-- Detecting C compile features - done
-- Check for working CXX compiler: C:/Program Files/LLVM/bin/clang++.exe
-- Check for working CXX compiler: C:/Program Files/LLVM/bin/clang++.exe -- works
-- Detecting CXX compiler ABI info
-- Detecting CXX compiler ABI info - done
-- Detecting CXX compile features
-- Detecting CXX compile features - done
-- Configuring done
-- Generating done
-- Build files have been written to: C:/Users/vladislav/Projects/SystemProgramming/0x0A/Lab_05/buildcmake
```

Рисунок 13 – Запуск cmake

```
-- Detecting CXX compile features
-- Detecting CXX compile features - done
-- Configuring done
-- Generating done
-- Build files have been written to: C:/Users/vladislav/Projects/SystemProgramming/0x0A/Lab_05/buildcmake
PS C:\Users\vladislav\Projects\SystemProgramming\0x0A\Lab_05\buildcmake> ninja
[1/20] Building C object getopt-from-mingw/CMakeFiles/getopt-from-mingw.dir/getopt.c.obj
../getopt-from-mingw/getopt.c:348:28: warning: 'getenv' is deprecated: This function or variable may be unsafe. Consider using _dupenv_s instead. To disable deprecation, use _CRT_SECURE_NO_WARNINGS. See online help for details. [-Wdeprecated-declarations]
    posixly_correct = (getenv("POSIXLY_CORRECT") != NULL);
                                         ^
C:\Program Files (x86)\Windows Kits\10\Include\10.0.18362.0\ucrt\stdlib.h:1190:20: note: 'getenv' has been explicitly marked deprecated here
    _Check_return_ __CRT_INSECURE_DEPRECATE(_dupenv_s)
                                         ^
C:\Program Files (x86)\Microsoft Visual Studio\2019\Preview\VC\Tools\MSVC\14.24.28207\include\vcruntime.h:311:55: note: expanded from macro '__CRT_INSECURE_DEPRECATE'
#define __CRT_INSECURE_DEPRECATE(_Replacement) __CRT_DEPRECATED_TEXT(_Replacement) \
                                         ^
C:\Program Files (x86)\Microsoft Visual Studio\2019\Preview\VC\Tools\MSVC\14.24.28207\include\vcruntime.h:301:47: note: expanded from macro '__CRT_DEPRECATED_TEXT'
#define __CRT_DEPRECATED_TEXT(_Text) __declspec(deprecated(_Text))
                                         ^
1 warning generated.
[4/20] Building C object Lab_05_Client/CMakeFiles/Lab_05_Client.dir/client.c.obj
../Lab_05_Client/client.c:34:28: warning: 'inet_addr' is deprecated: Use inet_nton() or InetPton() instead or define __WIN32_DEPRECATED_NO_WARNINGS to disable deprecated API warnings [-Wdeprecated-declarations]
    name.sin_addr.s_addr = inet_addr(pArgs->IpAddress);
```

Рисунок 14 – Запуск ninja

```
PowerShell 6 (x64)
strcpy(pArgs->IpAddress, optarg);
^
C:\Program Files (x86)\Windows Kits\10\Include\10.0.18362.0\ucrt\string.h:133:1: note: 'strcpy' has been explicitly marked deprecated here
__DEFINE_CPP_OVERLOAD_STANDARD_FUNC_0_1(
^
C:\Program Files (x86)\Windows Kits\10\Include\10.0.18362.0\ucrt\corecrt.h:748:5: note: expanded from macro '__DEFINE_CPP_OVERLOAD_STANDARD_FUNC_0_1'
__DEFINE_CPP_OVERLOAD_STANDARD_FUNC_0_1_EX(_ReturnType, _ReturnPolicy, _DeclSpec, _FuncName, _FuncName##_s, _DstType
, _SalAttributeDst, _DstType, _Dst, _TType1, _TArg1)
^
C:\Program Files (x86)\Windows Kits\10\Include\10.0.18362.0\ucrt\corecrt.h:1831:17: note: expanded from macro '__DEFINE_CPP_OVERLOAD_STANDARD_FUNC_0_1_EX'
__CRT_INSECURE_DEPRECATED(_SecureFuncName) _DeclSpec _ReturnType __cdecl _FuncName(_SalAttributeDst _DstType
pe *_Dst, _TType1 _TArg1);
^
C:\Program Files (x86)\Microsoft Visual Studio\2019\Preview\VC\Tools\MSVC\14.24.28207\include\vcruntime.h:311:55: note:
expanded from macro '__CRT_INSECURE_DEPRECATED'
#define __CRT_INSECURE_DEPRECATED(_Replacement) __CRT_DEPRECATED_TEXT( \
^
C:\Program Files (x86)\Microsoft Visual Studio\2019\Preview\VC\Tools\MSVC\14.24.28207\include\vcruntime.h:301:47: note:
expanded from macro '__CRT_DEPRECATED_TEXT'
#define __CRT_DEPRECATED_TEXT(_Text) __declspec(deprecated(_Text))
^
1 warning generated.
[20/20] Linking C executable Lab_05_Server\Lab_05_Server.exe
PS C:\Users\vladislav\Projects\SystemProgramming\0x0A\Lab_05\buildcmake>
```

Рисунок 15 – Конец работы ninja

4.2.3. Запуск сервера

```
Terminal - vladislav@DESKTOP-BMJQ5IR: ~/Projects/SystemProgramming/0x0A/Lab_05
File Edit View Terminal Tabs Help
vladislav@DESKTOP-BMJQ5IR:~/Projects/SystemProgramming/0x0A/Lab_05$ ifconfig wlan0
wlan0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 192.168.1.12 netmask 255.255.255.0 broadcast 192.168.1.255
        inet6 fe80::ea20:4bff:fe9d:71c1 prefixlen 64 scopeid 0x20<link>
            ether 00:19:7e:06:44:99 txqueuelen 1000 (Ethernet)
            RX packets 3042220 bytes 3970772656 (3.9 GB)
            RX errors 0 dropped 64 overruns 0 frame 0
            TX packets 2552900 bytes 541717113 (541.7 MB)
            TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
vladislav@DESKTOP-BMJQ5IR:~/Projects/SystemProgramming/0x0A/Lab_05$ ./build/Lab_05_Server
Сервер запущен, ожидание подключения и приёма данных на порт 2052...
```

Рисунок 16 – Запуск ifconfig для получения IP-адреса сервера в локальной сети
и запуск сервера

4.2.4. Запуск клиента

```

PowerShell 6 (x64)
PS C:\Users\vladislav\Projects\SystemProgramming\0x0A\Lab_05\buildcmake> .\Lab_05_Client\Lab_05_Client.exe -a 192.168.1.12
Степерь матрицы натуральное число.
Введите степень матриц: 2
Элементы матриц - целые числа
Введите элемент матрицы A[0][0]: 1
Введите элемент матрицы A[0][1]: 2
Введите элемент матрицы A[1][0]: 3
Введите элемент матрицы A[1][1]: 4
Введите элемент матрицы B[0][0]: 5
Введите элемент матрицы B[0][1]: 6
Введите элемент матрицы B[1][0]: 7
Введите элемент матрицы B[1][1]: 8
Введенные матрицы:
Матрица A:
1 2
3 4
Матрица B:
5 6
7 8
Передача на 192.168.1.12:20522...
Успешно передано.
PS C:\Users\vladislav\Projects\SystemProgramming\0x0A\Lab_05\buildcmake>

```

Рисунок 17 – Запуск клиента

4.2.5. Результат работы сервера

```

Terminal - vladislav@DESKTOP-BMJQ5IR:~/Projects/SystemProgramming/0x0A/Lab_05
File Edit View Terminal Tabs Help
vladislav@DESKTOP-BMJQ5IR:~/Projects/SystemProgramming/0x0A/Lab_05$ ifconfig wlan0
wlan0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 192.168.1.12 netmask 255.255.255.0 broadcast 192.168.1.255
        inet6 fe80::ea20:4bff:fe9d:71c1 prefixlen 64 scopeid 0x20<link>
            ether 00:19:7e:06:44:99 txqueuelen 1000 (Ethernet)
            RX packets 304220 bytes 3970772656 (3.9 GB)
            RX errors 0 dropped 64 overruns 0 frame 0
            TX packets 2552900 bytes 541717113 (541.7 MB)
            TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

vladislav@DESKTOP-BMJQ5IR:~/Projects/SystemProgramming/0x0A/Lab_05$ ./build/Lab_05_Server
Сервер запущен, ожидание подключения и приёма данных на порт 20522...
Принятые матрицы от клиента 192.168.1.10:
Матрица A:
1 2
3 4
Матрица B:
5 6
7 8

Матрица A+B:
6 8
10 12

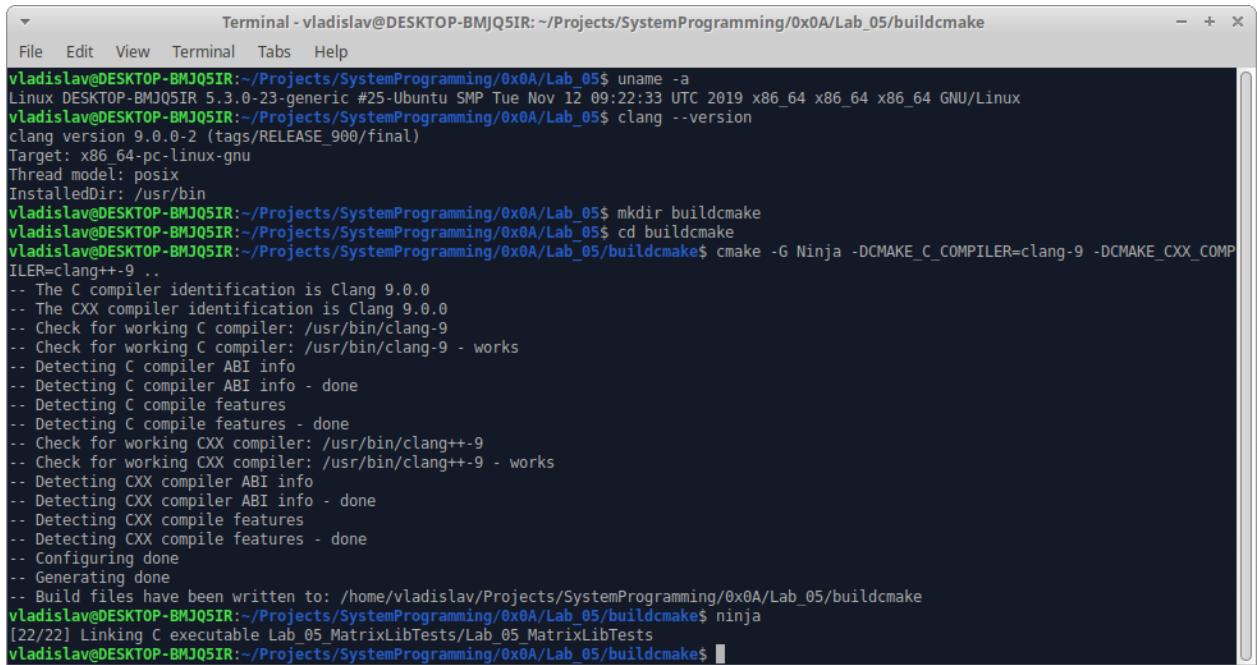
Определитель: -8
vladislav@DESKTOP-BMJQ5IR:~/Projects/SystemProgramming/0x0A/Lab_05$ 

```

Рисунок 18 – Результат работы сервера

4.3 Запуск №3 (по виртуальной сети; сервер – Android (Termix), Clang; клиент – Ubuntu 19.10, Clang)

4.3.1. Сборка с помощью CMake и Ninja на клиенте



```
Terminal - vladislav@DESKTOP-BMJQ5IR: ~/Projects/SystemProgramming/0x0A/Lab_05/buildcmake
File Edit View Terminal Tabs Help
vladislav@DESKTOP-BMJQ5IR:~/Projects/SystemProgramming/0x0A/Lab_05$ uname -a
Linux DESKTOP-BMJQ5IR 5.3.0-23-generic #25-Ubuntu SMP Tue Nov 12 09:22:33 UTC 2019 x86_64 x86_64 x86_64 GNU/Linux
vladislav@DESKTOP-BMJQ5IR:~/Projects/SystemProgramming/0x0A/Lab_05$ clang --version
clang version 9.0.0-2 (tags/RELEASE_900/final)
Target: x86_64-pc-linux-gnu
Thread model: posix
InstalledDir: /usr/bin
vladislav@DESKTOP-BMJQ5IR:~/Projects/SystemProgramming/0x0A/Lab_05$ mkdir buildcmake
vladislav@DESKTOP-BMJQ5IR:~/Projects/SystemProgramming/0x0A/Lab_05$ cd buildcmake
vladislav@DESKTOP-BMJQ5IR:~/Projects/SystemProgramming/0x0A/Lab_05/buildcmake$ cmake -G Ninja -DCMAKE_C_COMPILER=clang-9 -DCMAKE_CXX_COMPILER=clang++-9 ..
-- The C compiler identification is Clang 9.0.0
-- The CXX compiler identification is Clang 9.0.0
-- Check for working C compiler: /usr/bin/clang-9
-- Check for working C compiler: /usr/bin/clang-9 - works
-- Detecting C compiler ABI info
-- Detecting C compiler ABI info - done
-- Detecting C compile features
-- Detecting C compile features - done
-- Check for working CXX compiler: /usr/bin/clang++-9
-- Check for working CXX compiler: /usr/bin/clang++-9 - works
-- Detecting CXX compiler ABI info
-- Detecting CXX compiler ABI info - done
-- Detecting CXX compile features
-- Detecting CXX compile features - done
-- Configuring done
-- Generating done
-- Build files have been written to: /home/vladislav/Projects/SystemProgramming/0x0A/Lab_05/buildcmake
vladislav@DESKTOP-BMJQ5IR:~/Projects/SystemProgramming/0x0A/Lab_05/buildcmake$ ninja
[22/22] Linking C executable Lab_05_MatrixLibTests/Lab_05_MatrixLibTests
vladislav@DESKTOP-BMJQ5IR:~/Projects/SystemProgramming/0x0A/Lab_05/buildcmake$
```

Рисунок 19 – Запуск cmake и ninja

4.3.2. Сборка с помощью autotools на сервере

00:22:49 19%
\$ uname -a
Linux localhost 4.9.106-perf+ #1 SMP PREEMPT Wed Sep 11 23:46:
35 CST 2019 aarch64 Android
\$ clang --version
clang version 9.0.0 (tags/RELEASE_900/final)
Target: aarch64-unknown-linux-android
Thread model: posix
InstalledDir: /data/data/com.termux/files/usr/bin
\$./configure CC=clang
checking for gcc... clang
checking whether the C compiler works... yes
checking for C compiler default output file name... a.out
checking for suffix of executables...
checking whether we are cross compiling... no
checking for suffix of object files... o
checking whether we are using the GNU C compiler... yes
checking whether clang accepts -g... yes
checking for clang option to accept ISO C89... none needed
checking whether clang understands -c and -o together... yes
checking how to run the C preprocessor... clang -E
checking for grep that handles long lines and -e... /data/data/
/com.termux/files/usr/bin/grep
checking for egrep... /data/data/com.termux/files/usr/bin/grep
-E
checking for ANSI C header files... yes
checking for sys/types.h... yes
checking for sys/stat.h... yes
checking for stdlib.h... yes
checking for string.h... yes
checking for memory.h... yes
checking for strings.h... yes
checking for inttypes.h... yes
checking for stdint.h... yes
checking for unistd.h... yes
checking arpa/inet.h usability... yes
checking arpa/inet.h presence... yes
checking for arpa/inet.h... yes
checking fcntl.h usability... yes
checking fcntl.h presence... yes
checking for fcntl.h... yes
checking limits.h usability... yes
checking limits.h presence... yes
checking for limits.h... yes
checking malloc.h usability... yes
checking malloc.h presence... yes
checking for malloc.h... yes
checking netinet/in.h usability... yes
checking netinet/in.h presence... yes
checking for netinet/in.h... yes
checking stddef.h usability... yes
checking stddef.h presence... yes
checking for stddef.h... yes
checking for stdint.h... (cached) yes
checking for stdlib.h... (cached) yes
checking for string.h... (cached) yes
checking sys/socket.h usability... yes
checking sys/socket.h presence... yes
checking for sys/socket.h... yes
checking for unistd.h... (cached) yes
checking for stdbool.h that conforms to C99... yes
checking for _Bool... yes
checking for size_t... yes
checking for uint16_t... yes

ESC ⌂ CTRL ALT - ↓ ↑

Рисунок 20 – Запуск ./configure

```
00:40:54 🎵 🔍 56% ⚡

/files/usr/bin/install -c
checking whether build environment is sane... yes
checking for a thread-safe mkdir -p... /data/data/com.termux/files/usr/bin/mkdir -p
checking for gawk... gawk
checking whether make sets $(MAKE)... yes
checking whether make supports the include directive... yes (GNU style)
checking whether make supports nested variables... yes
checking dependency style of gcc... gcc3
checking for ranlib... ranlib
checking that generated files are newer than configure... done
configure: creating ./config.status
config.status: creating build/Makefile
config.status: creating Makefile
config.status: executing depfiles commands
$ make
Making all in build
make[1]: Entering directory '/data/data/com.termux/files/home/Projects/SystemProgramming/0x0A/Lab_05/build'
gcc -DPACKAGE_NAME=\"Lab_05\" -DPACKAGE_TARNAME=\"lab_05\" -DPACKAGE_VERSION=\"3.0\" -DPACKAGE_STRING=\"Lab_05\ 3.0\" -DPACKAGE_BUGREPORT=\"misterptits@yandex.ru\" -DPACKAGE_URL=\"\" -DSTDC_HEADERS=1 -DHAVE_SYS_TYPES_H=1 -DHAVE_SYS_STAT_H=1 -DHAVE_STDLIB_H=1 -DHAVE_STRING_H=1 -DHAVE_MEMORY_H=1 -DHAVE_STRINGS_H=1 -DHAVE_INTYPES_H=1 -DHAVE_STINT_H=1 -DHAVE_UNISTD_H=1 -DHAVE_ARPA_INET_H=1 -DHAVE_FCNTL_H=1 -DHAVE_LIMITS_H=1 -DHAVE_MALLOC_H=1 -DHAVE_NETINET_IN_H=1 -DHAVE_STDEF_H=1 -DHAVE_STDIN_T_H=1 -DHAVE_STDLIB_H=1 -DHAVE_STRING_H=1 -DHAVE_SYS_SOCKET_H=1 -DHAVE_UNISTD_H=1 -DHAVE_BOOL=1 -DHAVE_STDLIB_H=1 -DHAVE_MALLOCS=1 -DHAVE_STDLIB_H=1 -DHAVE_REALLOC=1 -DHAVE_DECL_STRError_R=1 -DHAVE_STRError_R=1 -DHAVE_SOCKET=1 -DHAVE_STRCHR=1 -DPACKAGE=\"lab_05\" -DVERSION=\"3.0\" -I. -I../Lab_05_MatrixLib -I../Lab_05_Lib -std=gnu99 -g -O2 -MT ../Lab_05_Client/Lab_05_Client-ClientArgs.o -MD -MP -MF ../Lab_05_Client/.deps/Lab_05_Client-ClientArgs.Tpo -c -o ../Lab_05_Client/Lab_05_Client-ClientArgs.o `test -f '../Lab_05_Client/ClientArgs.c' || echo './'`../Lab_05_Client/ClientArgs.c
mv -f ../Lab_05_Client/.deps/Lab_05_Client-ClientArgs.Tpo ../Lab_05_Client/.deps/Lab_05_Client-ClientArgs.Po
gcc -DPACKAGE_NAME=\"Lab_05\" -DPACKAGE_TARNAME=\"lab_05\" -DPACKAGE_VERSION=\"3.0\" -DPACKAGE_STRING=\"Lab_05\ 3.0\" -DPACKAGE_BUGREPORT=\"misterptits@yandex.ru\" -DPACKAGE_URL=\"\" -DSTDC_HEADERS=1 -DHAVE_SYS_TYPES_H=1 -DHAVE_SYS_STAT_H=1 -DHAVE_STDLIB_H=1 -DHAVE_STRING_H=1 -DHAVE_MEMORY_H=1 -DHAVE_STRINGS_H=1 -DHAVE_INTYPES_H=1 -DHAVE_STINT_H=1 -DHAVE_UNISTD_H=1 -DHAVE_ARPA_INET_H=1 -DHAVE_FCNTL_H=1 -DHAVE_LIMITS_H=1 -DHAVE_MALLOC_H=1 -DHAVE_NETINET_IN_H=1 -DHAVE_STDEF_H=1 -DHAVE_STDIN_T_H=1 -DHAVE_STDLIB_H=1 -DHAVE_STRING_H=1 -DHAVE_SYS_SOCKET_H=1 -DHAVE_UNISTD_H=1 -DHAVE_BOOL=1 -DHAVE_STDLIB_H=1 -DHAVE_MALLOCS=1 -DHAVE_STDLIB_H=1 -DHAVE_REALLOC=1 -DHAVE_DECL_STRError_R=1 -DHAVE_STRError_R=1 -DHAVE_SOCKET=1 -DHAVE_STRCHR=1 -DPACKAGE=\"lab_05\" -DVERSION=\"3.0\" -I. -I../Lab_05_MatrixLib -I../Lab_05_Lib -std=gnu99 -g -O2 -MT ../Lab_05_Client/Lab_05_Client-Client.o -MD -MP -MF ../Lab_05_Client/.deps/Lab_05_Client-Client.Tpo -c -o ../Lab_05_Client/Lab_05_Client-Client.o `test -f '../Lab_05_Client/Client.c' || echo './'`../Lab_05_Client/Client.c
mv -f ../Lab_05_Client/.deps/Lab_05_Client-Client.Tpo ../Lab_05_Client/.deps/Lab_05_Client-Client.Po
gcc -DPACKAGE_NAME=\"Lab_05\" -DPACKAGE_TARNAME=\"lab_05\" -DPACKAGE_VERSION=\"3.0\" -DPACKAGE_STRING=\"Lab_05\ 3.0\" -DPACKAGE_BUGREPORT=\"misterptits@yandex.ru\" -DPACKAGE_URL=\"\" -DSTDC_HEADERS=1 -DHAVE_SYS_TYPES_H=1 -DHAVE_SYS_STAT_H=1 -DHAVE_STDLIB_H=1 -DHAVE_STRING_H=1 -DHAVE_MEMORY_H=1 -DHAVE_STRINGS_H=1 -DHAVE_INTYPES_H=1 -DHAVE_STINT_H=1 -DHAVE_UNISTD_H=1 -DHAVE_ARPA_INET_H=1 -DHAVE_FCNTL_H=1 -DHAVE_LIMITS_H=1 -DHAVE_MALLOC_H=1 -DHAVE_NETINET_IN_H=1 -DHAVE_STDEF_H=1 -DHAVE_STDIN_T_H=1 -DHAVE_STDLIB_H=1 -DHAVE_STRING_H=1 -DHAVE_SYS_SOCKET_H=1 -DHAVE_UNISTD_H=1 -DHAVE_BOOL=1 -DHAVE_STDLIB_H=1 -DHAVE_MALLOCS=1 -DHAVE_STDLIB_H=1 -DHAVE_REALLOC=1 -DHAVE_DECL_STRError_R=1 -DHAVE_STRError_R=1 -DHAVE_SOCKET=1 -DHAVE_STRCHR=1 -DPACKAGE=\"lab_05\" -DVERSION=\"3.0\" -I. -I../Lab_05_MatrixLib -I../Lab_05_Lib -std=gnu99 -g -O2 -MT ../Lab_05_Client/Lab_05_Client-Client.o -MD -MP -MF ../Lab_05_Client/.deps/Lab_05_Client-Client.Tpo -c -o ../Lab_05_Client/Lab_05_Client-Client.o `test -f '../Lab_05_Client/Client.c' || echo './'`../Lab_05_Client/Client.c
```

Рисунок 21 – Запуск make

00:41:02 56%

```

1 -DHAVE_UNISTD_H=1 -DHAVE_BOOL=1 -DHAVE_STDLIB_H=1 -DHAVE_M
LLOC=1 -DHAVE_STDLIB_H=1 -DHAVE_REALLOC=1 -DHAVE_DECL_STRERROR
_R=1 -DHAVE_STRERROR_R=1 -DHAVE_SOCKET=1 -DHAVE_STRCHR=1 -DPAC
KAGE=\"lab_05\" -DVERSION=\"3.0\" -I. -I../Lab_05_MatrixLib
-I../Lab_05_Lib -std=gnu99 -g -O2 -MT ../Lab_05_Server/Lab_05
_Server-ServerArgs.o -MD -MP -MF ../Lab_05_Server/.deps/Lab_05
_Server-ServerArgs.Tpo -c -o ../Lab_05_Server/Lab_05_Server-Se
rverArgs.o `test -f '../Lab_05_Server/ServerArgs.c' || echo '.
/'`../Lab_05_Server/ServerArgs.c
mv -f ../Lab_05_Server/.deps/Lab_05_Server-ServerArgs.Tpo ../L
ab_05_Server/.deps/Lab_05_Server-ServerArgs.Po
gcc -DPACKAGE_NAME=\"Lab_05\" -DPACKAGE_TARNAME=\"lab_05\" -DP
ACKAGE_VERSION=\"3.0\" -DPACKAGE_STRING=\"Lab_05\ 3.0\" -DPACK
AGE_BUGREPORT=\"misterptits@yandex.ru\" -DPACKAGE_URL=\"\" -DS
TDC_HEADERS=1 -DHAVE_SYS_TYPES_H=1 -DHAVE_SYS_STAT_H=1 -DHAVE_
STDLIB_H=1 -DHAVE_STRING_H=1 -DHAVE_MEMORY_H=1 -DHAVE_STRINGS_
H=1 -DHAVE_INTTYPES_H=1 -DHAVE_STDINT_H=1 -DHAVE_UNISTD_H=1 -D
HAVE_ARPA_INET_H=1 -DHAVE_FCNTL_H=1 -DHAVE_LIMITS_H=1 -DHAVE_M
ALLOC_H=1 -DHAVE_NETINET_IN_H=1 -DHAVE_STDEDEF_H=1 -DHAVE_STDIN
T_H=1 -DHAVE_STDLIB_H=1 -DHAVE_STRING_H=1 -DHAVE_SYS_SOCKET_H=
1 -DHAVE_UNISTD_H=1 -DHAVE_BOOL=1 -DHAVE_STDLIB_H=1 -DHAVE_M
LLOC=1 -DHAVE_STDLIB_H=1 -DHAVE_REALLOC=1 -DHAVE_DECL_STRERROR
_R=1 -DHAVE_STRERROR_R=1 -DHAVE_SOCKET=1 -DHAVE_STRCHR=1 -DPAC
KAGE=\"lab_05\" -DVERSION=\"3.0\" -I. -I../Lab_05_MatrixLib
-I../Lab_05_Lib -std=gnu99 -g -O2 -MT ../Lab_05_Server/Lab_05
_Server-Server.o -MD -MP -MF ../Lab_05_Server/.deps/Lab_05_Ser
ver-Server.Tpo -c -o ../Lab_05_Server/Lab_05_Server-Server.o `
test -f '../Lab_05_Server/Server.c' || echo './`../Lab_05_Ser
ver/Server.c
mv -f ../Lab_05_Server/.deps/Lab_05_Server-Server.Tpo ../Lab_0
5_Server/.deps/Lab_05_Server-Server.Po
gcc -DPACKAGE_NAME=\"Lab_05\" -DPACKAGE_TARNAME=\"lab_05\" -DP
ACKAGE_VERSION=\"3.0\" -DPACKAGE_STRING=\"Lab_05\ 3.0\" -DPACK
AGE_BUGREPORT=\"misterptits@yandex.ru\" -DPACKAGE_URL=\"\" -DS
TDC_HEADERS=1 -DHAVE_SYS_TYPES_H=1 -DHAVE_SYS_STAT_H=1 -DHAVE_
STDLIB_H=1 -DHAVE_STRING_H=1 -DHAVE_MEMORY_H=1 -DHAVE_STRINGS_
H=1 -DHAVE_INTTYPES_H=1 -DHAVE_STDINT_H=1 -DHAVE_UNISTD_H=1 -D
HAVE_ARPA_INET_H=1 -DHAVE_FCNTL_H=1 -DHAVE_LIMITS_H=1 -DHAVE_M
ALLOC_H=1 -DHAVE_NETINET_IN_H=1 -DHAVE_STDEDEF_H=1 -DHAVE_STDIN
T_H=1 -DHAVE_STDLIB_H=1 -DHAVE_STRING_H=1 -DHAVE_SYS_SOCKET_H=
1 -DHAVE_UNISTD_H=1 -DHAVE_BOOL=1 -DHAVE_STDLIB_H=1 -DHAVE_M
LLOC=1 -DHAVE_STDLIB_H=1 -DHAVE_REALLOC=1 -DHAVE_DECL_STRERROR
_R=1 -DHAVE_STRERROR_R=1 -DHAVE_SOCKET=1 -DHAVE_STRCHR=1 -DPAC
KAGE=\"lab_05\" -DVERSION=\"3.0\" -I. -I../Lab_05_MatrixLib
-I../Lab_05_Lib -std=gnu99 -g -O2 -MT ../Lab_05_Server/Lab_05
_Server-main.o -MD -MP -MF ../Lab_05_Server/.deps/Lab_05_Serve
r-main.Tpo -c -o ../Lab_05_Server/Lab_05_Server-main.o `test -
f '../Lab_05_Server/main.c' || echo './`../Lab_05_Server/main
.c
mv -f ../Lab_05_Server/.deps/Lab_05_Server-main.Tpo ../Lab_05_
Server/.deps/Lab_05_Server-main.Po
gcc -I../Lab_05_MatrixLib -I../Lab_05_Lib -std=gnu99 -g -O2
-o Lab_05_Server ../Lab_05_Server/Lab_05_Server-ServerArgs.o .
../Lab_05_Server/Lab_05_Server-Server.o ../Lab_05_Server/Lab_05
_Server-main.o libLab_05_MatrixLib.a libLab_05_Lib.a
make[1]: Leaving directory '/data/data/com.termux/files/home/P
rojects/SystemProgramming/0x0A/Lab_05/build'
make[1]: Entering directory '/data/data/com.termux/files/home/
Projects/SystemProgramming/0x0A/Lab_05'
make[1]: Nothing to be done for 'all-am'.
make[1]: Leaving directory '/data/data/com.termux/files/home/P
rojects/SystemProgramming/0x0A/Lab_05'
$ 

```

ESC CTRL ALT - ↓ ↑

Рисунок 22 – Конец работы make

4.3.3. Запуск сервера

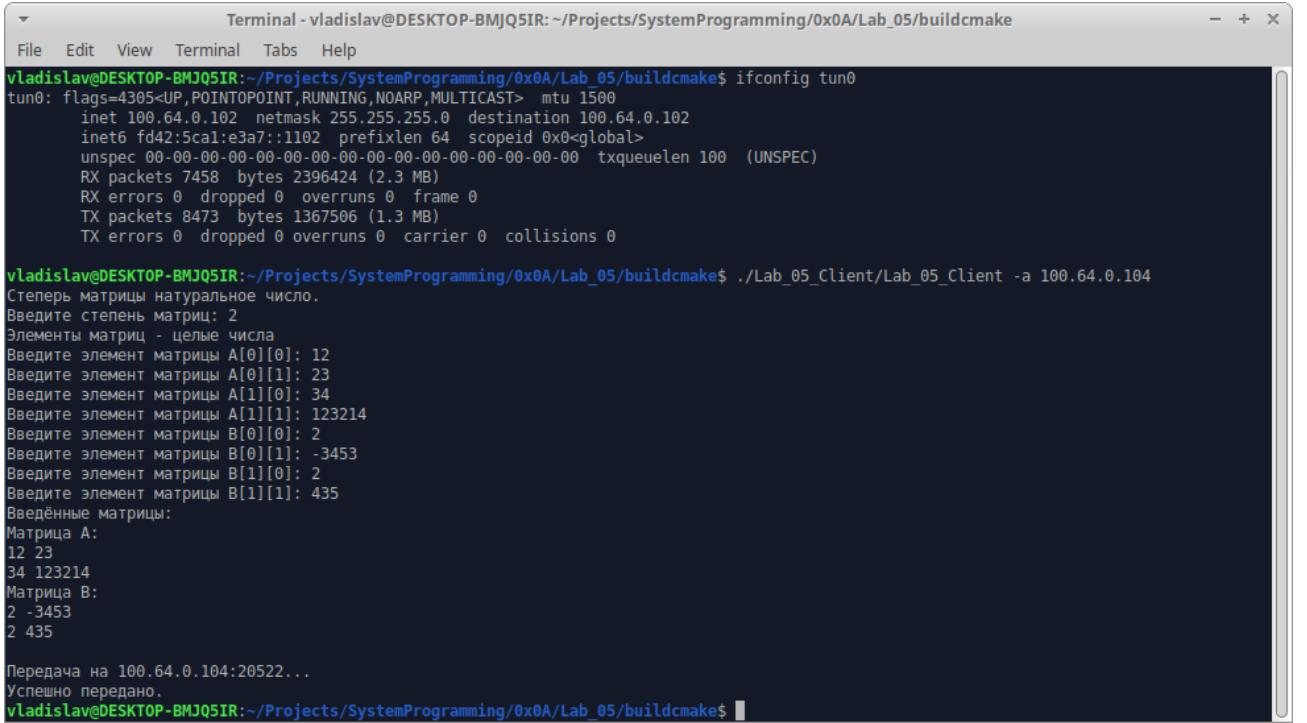
00:41:38 57%

```
$ ifconfig tun0
tun0: flags=81<UP,POINTOPOINT,RUNNING> mtu 1500
      inet 100.64.0.104 netmask 255.255.255.0 destination
          100.64.0.104
          inet6 fe80::900c:18f:690e:1d46 prefixlen 64 scopeid
          0x20<link>
          inet6 fd42:5ca1:e3a7::1104 prefixlen 64 scopeid 0x0<
          global>
          unspec 00-00-00-00-00-00-00-00-00-00-00-00-00-00-00-00
          txqueuelen 500 (UNSPEC)
          RX packets 12239 bytes 16572451 (15.8 MiB)
          RX errors 0 dropped 0 overruns 0 frame 0
          TX packets 7727 bytes 455512 (444.8 KiB)
          TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

$ ./build/Lab_05_Server
Сервер запущен, ожидание подключения и приёма данных на порт 2
0522...
```

Рисунок 23 – Запуск ifconfig для получения IP-адреса сервера в виртуальной сети и запуск сервера

4.3.4. Запуск клиента



Terminal - vladislav@DESKTOP-BMJQ5IR:~/Projects/SystemProgramming/0x0A/Lab_05/buildcmake

```
File Edit View Terminal Tabs Help
vladislav@DESKTOP-BMJQ5IR:~/Projects/SystemProgramming/0x0A/Lab_05/buildcmake$ ifconfig tun0
tun0: flags=4305<UP,POINTOPOINT,RUNNING,NOARP,MULTICAST> mtu 1500
    inet 100.64.0.102 netmask 255.255.255.0 destination 100.64.0.102
        inet6 fd42:5cale:3a7::1102 prefixlen 64 scopeid 0x0<global>
            unspec 00-00-00-00-00-00-00-00-00-00-00-00 txqueuelen 100 (UNSPEC)
            RX packets 7458 bytes 2396424 (2.3 MB)
            RX errors 0 dropped 0 overruns 0 frame 0
            TX packets 8473 bytes 1367506 (1.3 MB)
            TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

vladislav@DESKTOP-BMJQ5IR:~/Projects/SystemProgramming/0x0A/Lab_05/buildcmake$ ./Lab_05_Client/Lab_05_Client -a 100.64.0.104
Степерь матрицы натуральное число.
Введите степень матриц: 2
Элементы матриц - целые числа
Введите элемент матрицы A[0][0]: 12
Введите элемент матрицы A[0][1]: 23
Введите элемент матрицы A[1][0]: 34
Введите элемент матрицы A[1][1]: 123214
Введите элемент матрицы B[0][0]: 2
Введите элемент матрицы B[0][1]: -3453
Введите элемент матрицы B[1][0]: 2
Введите элемент матрицы B[1][1]: 435
Введённые матрицы:
Матрица A:
12 23
34 123214
Матрица B:
2 -3453
2 435

Передача на 100.64.0.104:20522...
Успешно передано.
vladislav@DESKTOP-BMJQ5IR:~/Projects/SystemProgramming/0x0A/Lab_05/buildcmake$
```

Рисунок 24 – Клиент считал данные, передал и успешно завершился

4.3.5. Результат работы сервера



00:46:17 64%

```
$ ifconfig tun0
tun0: flags=81<UP,POINTOPOINT,RUNNING> mtu 1500
      inet 100.64.0.104 netmask 255.255.255.0 destination
          100.64.0.104
            inet6 fe80::900c:18f:690e:1d46 prefixlen 64 scopeid
              0x20<link>
                inet6 fd42:5ca1:e3a7::1104 prefixlen 64 scopeid 0x0<
global>
                  unspec 00-00-00-00-00-00-00-00-00-00-00-00-00-00-00-00
txqueuelen 500 (UNSPEC)
                  RX packets 12341 bytes 16622498 (15.8 MiB)
                  RX errors 0 dropped 0 overruns 0 frame 0
                  TX packets 7824 bytes 474707 (463.5 KiB)
                  TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

$ ./build/Lab_05_Server
Сервер запущен, ожидание подключения и приёма данных на порт 2
0522...
Принятые матрицы от клиента 100.64.0.102:
Матрица A:
12 23
34 123214
Матрица B:
2 -3453
2 435

Матрица A+B:
14 -3430
36 123649

Определитель: 1854566
$
```

Рисунок 25 – Сервер принял, вычислил, вывел результат и успешно завершился

4.4 Запуск №4 (по глобальной сети; сервер – Ubuntu 16.04, GCC; клиент – Windows 10, MinGW)

4.4.1. Сборка на клиенте с помощью CMake и mingw32-make

```

PowerShell 6 (x64)
PS C:\Users\vladislav\Projects\SystemProgramming\0x0A\Lab_05> mkdir buildcmake
Directory: C:\Users\vladislav\Projects\SystemProgramming\0x0A\Lab_05
Mode                LastWriteTime     Length Name
----                -----          ---- 
d----       25.11.2019      0:05      buildcmake

PS C:\Users\vladislav\Projects\SystemProgramming\0x0A\Lab_05> cd buildcmake
PS C:\Users\vladislav\Projects\SystemProgramming\0x0A\Lab_05\buildcmake> cmake -G "MinGW Makefiles" ..
-- The C compiler identification is GNU 7.3.0
-- The CXX compiler identification is GNU 7.3.0
-- Check for working C compiler: C:/Qt/Tools/mingw730_64/bin/gcc.exe
-- Check for working C compiler: C:/Qt/Tools/mingw730_64/bin/gcc.exe -- works
-- Detecting C compiler ABI info
-- Detecting C compiler ABI info - done
-- Detecting C compile features
-- Detecting C compile features - done
-- Check for working CXX compiler: C:/Qt/Tools/mingw730_64/bin/g++.exe
-- Check for working CXX compiler: C:/Qt/Tools/mingw730_64/bin/g++.exe -- works
-- Detecting CXX compiler ABI info
-- Detecting CXX compiler ABI info - done
-- Detecting CXX compile features
-- Detecting CXX compile features - done
-- Configuring done
-- Generating done
-- Build files have been written to: C:/Users/vladislav/Projects/SystemProgramming/0x0A/Lab_05/buildcmake
PS C:\Users\vladislav\Projects\SystemProgramming\0x0A\Lab_05\buildcmake> mingw32-make

```

Рисунок 26 – Запуск cmake

```

PowerShell 6 (x64)
-- Detecting C compile features - done
-- Check for working CXX compiler: C:/Qt/Tools/mingw730_64/bin/g++.exe
-- Check for working CXX compiler: C:/Qt/Tools/mingw730_64/bin/g++.exe -- works
-- Detecting CXX compiler ABI info
-- Detecting CXX compiler ABI info - done
-- Detecting CXX compile features
-- Detecting CXX compile features - done
-- Configuring done
-- Generating done
-- Build files have been written to: C:/Users/vladislav/Projects/SystemProgramming/0x0A/Lab_05/buildcmake
PS C:\Users\vladislav\Projects\SystemProgramming\0x0A\Lab_05\buildcmake> mingw32-make
Scanning dependencies of target Lab_05_MatrixLib
[ 5%] Building C object Lab_05_MatrixLib/CMakeFiles/Lab_05_MatrixLib.dir/Matrix.c.obj
[ 11%] Linking C static library libLab_05_MatrixLib.a
[ 11%] Built target Lab_05_MatrixLib
Scanning dependencies of target Lab_05_Lib
[ 16%] Building C object Lab_05_Lib/CMakeFiles/Lab_05_Lib.dir/Utils.c.obj
[ 22%] Building C object Lab_05_Lib/CMakeFiles/Lab_05_Lib.dir/ReturnCodes.c.obj
[ 27%] Building C object Lab_05_Lib/CMakeFiles/Lab_05_Lib.dir/Socket.c.obj
[ 33%] Building C object Lab_05_Lib/CMakeFiles/Lab_05_Lib.dir/Request.c.obj
In file included from C:/Users/vladislav/Projects/SystemProgramming/0x0A/Lab_05/Lab_05_Lib/Request.c:8:0:
C:/Users/vladislav/Projects/SystemProgramming/0x0A/Lab_05/Lab_05_Lib/Request.c: In function 'SendRequest':
C:/Users/vladislav/Projects/SystemProgramming/0x0A/Lab_05/Lab_05_Lib/Request.c:44:24: warning: passing argument 2 of 'send'
from incompatible pointer type [wincompatible-pointer-types]
    send(sock, Request, sizeof(Request), MSG_NOSIGNAL),
                                         ^
C:/Users/vladislav/Projects/SystemProgramming/0x0A/Lab_05/Lab_05_Lib/ReturnCodes.h:56:16: note: in definition of macro 'RET
URN_UNSUCCESSFUL_IF_NOT_EQUAL'
    int tmp = (f); \

```

Рисунок 27 – Запуск mingw32-make

```
[ 38%] Building C object Lab_05_Lib/CMakeFiles/Lab_05_Lib.dir/LastErrorMessage.c.obj
[ 44%] Building C object Lab_05_Lib/CMakeFiles/Lab_05_Lib.dir/Args.c.obj
[ 50%] Building C object Lab_05_Lib/CMakeFiles/Lab_05_Lib.dir/ArgsPrivate.c.obj
[ 55%] Linking C static library libLab_05_Lib.a
[ 55%] Built target Lab_05_Lib
Scanning dependencies of target Lab_05_Server
[ 61%] Building C object Lab_05_Server/CMakeFiles/Lab_05_Server.dir/main.c.obj
[ 66%] Building C object Lab_05_Server/CMakeFiles/Lab_05_Server.dir/Server.c.obj
C:/Users/vladislav/Projects/SystemProgramming/0x0A/Lab_05/Lab_05_Server/Server.c: In function 'Server':
C:/Users/vladislav/Projects/SystemProgramming/0x0A/Lab_05/Lab_05_Server/Server.c:42:9: warning: implicit declaration of function 'inet_ntop'; did you mean 'inet_ntoa'? [-Wimplicit-function-declaration]
    if (inet_ntop(clientAddressIn->sin_family,
                  ~~~~~
                  inet_ntoa
C:/Users/vladislav/Projects/SystemProgramming/0x0A/Lab_05/Lab_05_Server/Server.c:45:34: warning: comparison between pointer
and integer
    addressLength) == NULL)
                                              ^
[ 72%] Building C object Lab_05_Server/CMakeFiles/Lab_05_Server.dir/ServerArgs.c.obj
[ 77%] Linking C executable Lab_05_Server.exe
[ 77%] Built target Lab_05_Server
Scanning dependencies of target Lab_05_Client
[ 83%] Building C object Lab_05_Client/CMakeFiles/Lab_05_Client.dir/main.c.obj
[ 88%] Building C object Lab_05_Client/CMakeFiles/Lab_05_Client.dir/Client.c.obj
[ 94%] Building C object Lab_05_Client/CMakeFiles/Lab_05_Client.dir/ClientArgs.c.obj
[100%] Linking C executable Lab_05_Client.exe
[100%] Built target Lab_05_Client
PS C:/Users/vladislav/Projects/SystemProgramming/0x0A/Lab_05> buildcmake>
```

Рисунок 28 – Конец работы mingw32-make

4.4.2. Сборка на сервере с помощью autotools

```
vladislav@MySandbox:~/Projects/SystemProgramming/0x0A/Lab_05$ uname -a
Linux MySandbox 4.4.0-161-generic #189-Ubuntu SMP Tue Aug 27 08:10:16 UTC 2019 x86_64 x86_64 x86_64 GNU/Linux
vladislav@MySandbox:~/Projects/SystemProgramming/0x0A/Lab_05$ gcc --version
gcc (Ubuntu 5.4.0-6ubuntu1~16.04.12) 5.4.0-20160609
Copyright (C) 2015 Free Software Foundation, Inc.
This is free software; see the source for copying conditions. There is NO
warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.

vladislav@MySandbox:~/Projects/SystemProgramming/0x0A/Lab_05$ ./configure
checking for gcc... gcc
checking whether the C compiler works... yes
checking for C compiler default output file name... a.out
checking for suffix of executables...
checking whether we are cross compiling... no
checking for suffix of object files... o
checking whether we are using the GNU C compiler... yes
checking whether gcc accepts -g... yes
checking for gcc option to accept ISO C89... none needed
checking whether gcc understands -c and -o together... yes
checking how to run the C preprocessor... gcc -E
checking for grep that handles long lines and -e... /bin/grep
checking for egrep... /bin/grep -E
checking for ANSI C header files... yes
```

Рисунок 29 – Запуск ./configure

```

vladislav@MySandbox: ~/Projects/SystemProgramming/0x0A/Lab_05
config.status: creating build/Makefile
config.status: creating Makefile
config.status: executing depfiles commands
vladislav@MySandbox:~/Projects/SystemProgramming/0x0A/Lab_05$ make
Making all in build
make[1]: Entering directory '/home/vladislav/Projects/SystemProgramming/0x0A/Lab_05/build'
gcc -DPACKAGE_NAME="Lab_05" -DPACKAGE_TARNAME="lab_05" -DPACKAGE_VERSION="3.0" -DPACKAGE_STRING=\"Lab_05\ 3.0\" -DPACKAGE_BUGREPORT=\"misterptits@yandex.ru\" -DPACKAGE_URL=\"\" -DSTDC_HEADERS=1 -DHAVE_SYS_TYPES_H=1 -DHAVE_SYS_STAT_H=1 -DHAVE_STDLIB_H=1 -DHAVE_STRING_H=1 -DHAVE_MEMORY_H=1 -DHAVE_STRINGS_H=1 -DHAVE_INTTYPES_H=1 -DHAVE_STDINT_H=1 -DHAVE_UNISTD_H=1 -DHAVE_ARPA_INET_H=1 -DHAVE_FCNTL_H=1 -DHAVE_LIMITS_H=1 -DHAVE_MALLOC_H=1 -DHAVE_NETINET_IN_H=1 -DHAVE_STDEDEF_H=1 -DHAVE_STDINT_H=1 -DHAVE_STDLIB_H=1 -DHAVE_STRING_H=1 -DHAVE_SYS_SOCKET_H=1 -DHAVE_UNISTD_H=1 -DHAVE_BOOL=1 -DHAVE_STDLIB_H=1 -DHAVE_MALLOC=1 -DHAVE_STDLIB_H=1 -DHAVE_REALLOC=1 -DHAVE_DECL_STRERROR_R=1 -DHAVE_SOCKET=1 -DHAVE_STRCHR=1 -DPACKAGE=\"lab_05\" -DVERSION=\"3.0\" -I. -I../Lab_05_MatrixLib -std=gnu99 -g -O2 -MT ../Lab_05_Lib/libLab_05_Lib_a-LastErrorMessage.o -MD -MP ..../Lab_05_Lib.deps/libLab_05_Lib_a-LastErrorMessage.Tpo -c -o ..../Lab_05_Lib/libLab_05_Lib_a-LastErrorMessage.o `test -f '../Lab_05_Lib/LastErrorMessage.c' || echo './'`..../Lab_05_Lib/LastErrorMessage.c
mv -f ..../Lab_05_Lib.deps/libLab_05_Lib_a-LastErrorMessage.Tpo ..../Lab_05_Lib.deps/libLab_05_Lib_a-LastErrorMessage.Po
gcc -DPACKAGE_NAME="Lab_05" -DPACKAGE_TARNAME="lab_05" -DPACKAGE_VERSION="3.0" -DPACKAGE_STRING=\"Lab_05\ 3.0\" -DPACKAGE_BUGREPORT=\"misterptits@yandex.ru\" -DPACKAGE_URL=\"\" -DSTDC_HEADERS=1 -DHAVE_SYS_TYPES_H=1 -DHAVE_SYS_STAT_H=1 -DHAVE_STDLIB_H=1 -DHAVE_STRING_H=1 -DHAVE_MEMORY_H=1 -DHAVE_STRINGS_H=1 -DHAVE_INTTYPES_H=1 -DHAVE_STDINT_H=1 -DHAVE_UNISTD_H=1 -DHAVE_ARPA_INET_H=1 -DHAVE_FCNTL_H=1 -DHAVE_LIMITS_H=1 -DHAVE_MALLOC_H=1 -DHAVE_NETINET_IN_H=1 -DHAVE_STDEDEF_H=1 -DHAVE_STDINT_H=1 -DHAVE_STDLIB_H=1 -DHAVE_STRING_H=1 -DHAVE_SYS_SOCKET_H=1 -DHAVE_UNISTD_H=1 -DHAVE_BOOL=1 -DHAVE_STDLIB_H=1 -DHAVE_MALLOC=1 -DHAVE_STDLIB_H=1 -DHAVE_REALLOC=1 -DHAVE_DECL_STRERROR_R=1 -DHAVE_SOCKET=1 -DHAVE_STRCHR=1 -DPACKAGE=\"lab_05\" -DVERSION=\"3.0\" -I. -I../Lab_05_MatrixLib -std=gnu99 -g -O2 -MT ../Lab_05_Lib/libLab_05_Lib_a-Re

```

Рисунок 30 – Запуск make

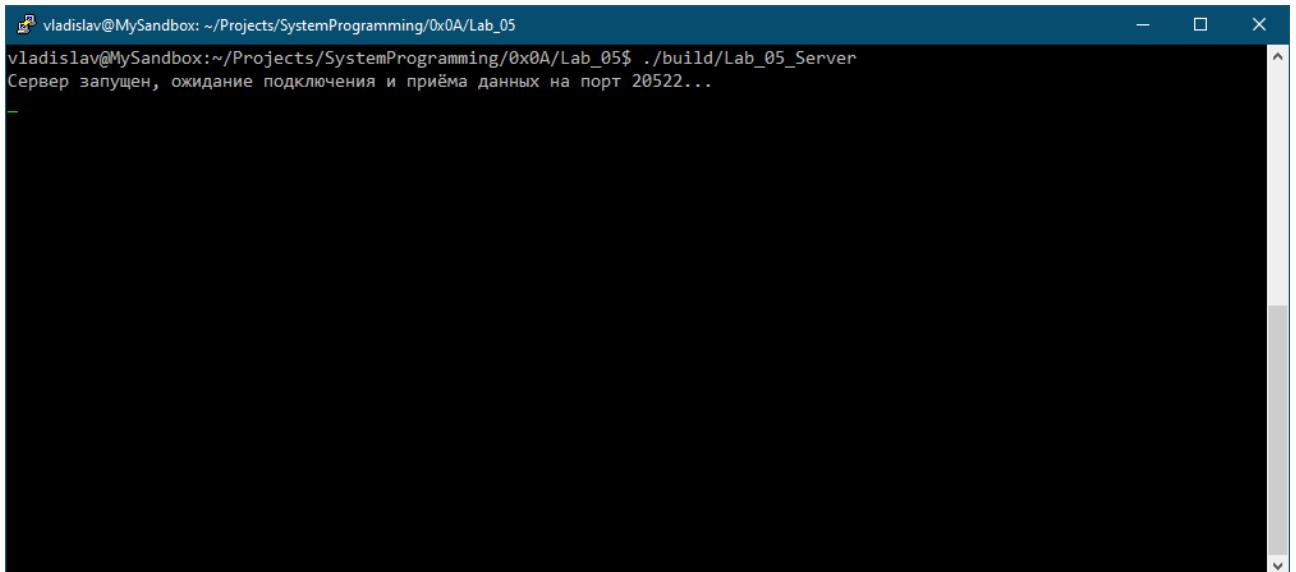
```

TDINT_H=1 -DHAVE_STDLIB_H=1 -DHAVE_STRING_H=1 -DHAVE_SYS_SOCKET_H=1 -DHAVE_UNISTD_H=1 -DHAVE_BOOL=1 -DHAVE_STDLIB_H=1 -DHAVE_MALLOC=1 -DHAVE_STDLIB_H=1 -DHAVE_REALLOC=1 -DHAVE_DECL_STRERROR_R=1 -DHAVE_SOCKET=1 -DHAVE_STRCHR=1 -DPACKAGE=\"lab_05\" -DVERSION=\"3.0\" -I. -I../Lab_05_MatrixLib -I../Lab_05_Lib -std=gnu99 -g -O2 -MT ../Lab_05_Server.o `test -f '../Lab_05_Server/Server.c' || echo './'`..../Lab_05_Server/Server.c
mv -f ..../Lab_05_Server.deps/Lab_05_Server-Server.Tpo ..../Lab_05_Server.deps/Lab_05_Server-Server.Po
gcc -DPACKAGE_NAME="Lab_05" -DPACKAGE_TARNAME="lab_05" -DPACKAGE_VERSION="3.0" -DPACKAGE_STRING=\"Lab_05\ 3.0\" -DPACKAGE_BUGREPORT=\"misterptits@yandex.ru\" -DPACKAGE_URL=\"\" -DSTDC_HEADERS=1 -DHAVE_SYS_TYPES_H=1 -DHAVE_SYS_STAT_H=1 -DHAVE_STDLIB_H=1 -DHAVE_STRING_H=1 -DHAVE_MEMORY_H=1 -DHAVE_STRINGS_H=1 -DHAVE_INTTYPES_H=1 -DHAVE_STDINT_H=1 -DHAVE_UNISTD_H=1 -DHAVE_ARPA_INET_H=1 -DHAVE_FCNTL_H=1 -DHAVE_LIMITS_H=1 -DHAVE_MALLOC_H=1 -DHAVE_NETINET_IN_H=1 -DHAVE_STDEDEF_H=1 -DHAVE_STDINT_H=1 -DHAVE_STDLIB_H=1 -DHAVE_STRING_H=1 -DHAVE_SYS_SOCKET_H=1 -DHAVE_UNISTD_H=1 -DHAVE_BOOL=1 -DHAVE_STDLIB_H=1 -DHAVE_MALLOC=1 -DHAVE_STDLIB_H=1 -DHAVE_REALLOC=1 -DHAVE_DECL_STRERROR_R=1 -DHAVE_SOCKET=1 -DHAVE_STRCHR=1 -DPACKAGE=\"lab_05\" -DVERSION=\"3.0\" -I. -I../Lab_05_MatrixLib -I../Lab_05_Lib -std=gnu99 -g -O2 -MT ../Lab_05_Server/Lab_05_Server-main.o `test -f '../Lab_05_Server/main.c' || echo './'`..../Lab_05_Server/main.c
mv -f ..../Lab_05_Server.deps/Lab_05_Server-main.Tpo ..../Lab_05_Server.deps/Lab_05_Server-main.Po
gcc -I../Lab_05_MatrixLib -I../Lab_05_Lib -std=gnu99 -g -O2 -o Lab_05_Server ..../Lab_05_Server/Lab_05_Server-ServerArgs.o ..../Lab_05_Server/Lab_05_Server-Server.o ..../Lab_05_Server/Lab_05_Server-main.o libLab_05_MatrixLib.a libLab_05_Lib.a
make[1]: Leaving directory '/home/vladislav/Projects/SystemProgramming/0x0A/Lab_05/build'
make[1]: Entering directory '/home/vladislav/Projects/SystemProgramming/0x0A/Lab_05'
make[1]: Nothing to be done for 'all-am'.
make[1]: Leaving directory '/home/vladislav/Projects/SystemProgramming/0x0A/Lab_05'
vladislav@MySandbox:~/Projects/SystemProgramming/0x0A/Lab_05$ 

```

Рисунок 31 – Конец работы make

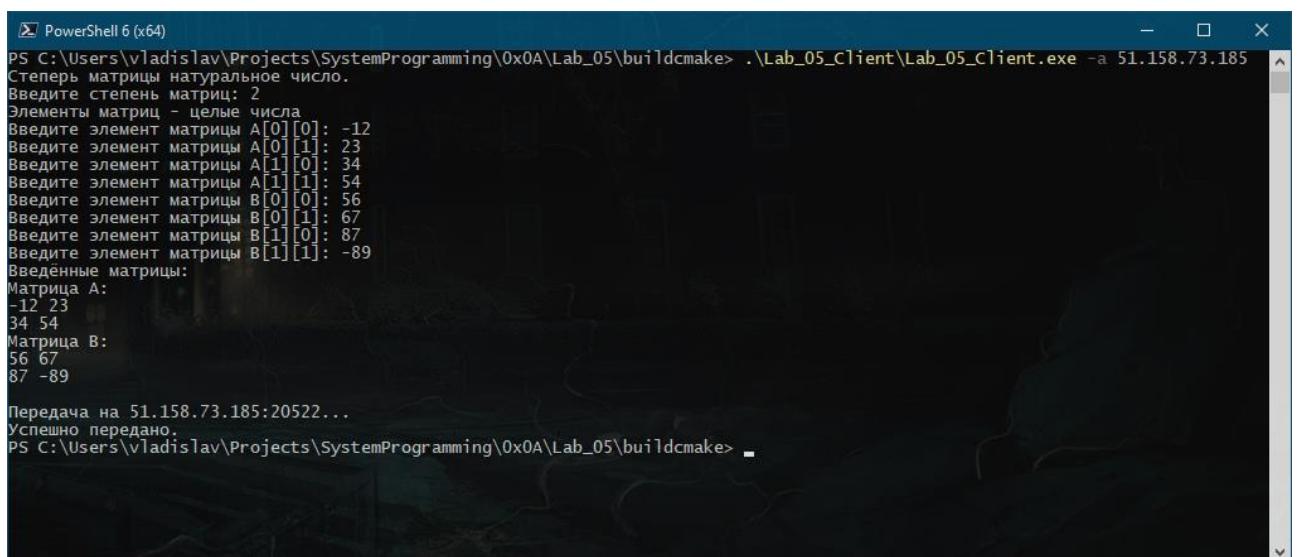
4.4.3. Запуск сервера



```
vladislav@MySandbox: ~/Projects/SystemProgramming/0x0A/Lab_05
vladislav@MySandbox:~/Projects/SystemProgramming/0x0A/Lab_05$ ./build/Lab_05_Server
Сервер запущен, ожидание подключения и приёма данных на порт 20522...
```

Рисунок 32 – Запуск сервера

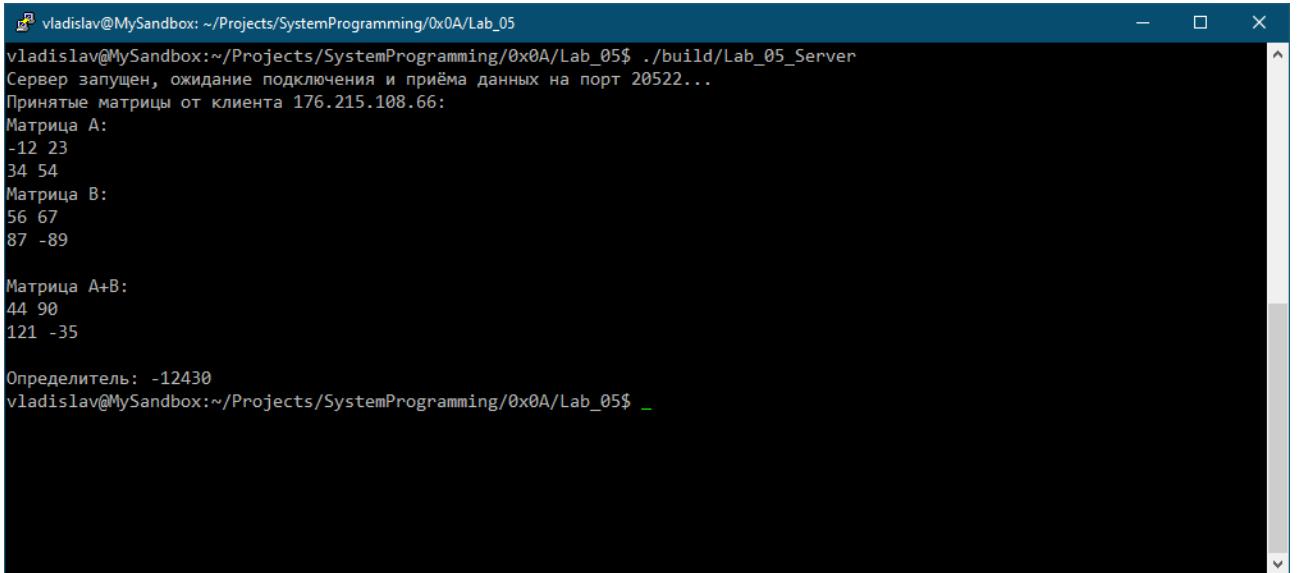
4.4.4. Запуск клиента



```
PowerShell 6 (x64)
PS C:\Users\vladislav\Projects\SystemProgramming\0x0A\Lab_05\buildcmake> .\Lab_05_Client\Lab_05_Client.exe -a 51.158.73.185
Степень матрицы натуральное число.
Введите степень матриц: 2
Элементы матриц - целые числа.
Введите элемент матрицы A[0][0]: -12
Введите элемент матрицы A[0][1]: 23
Введите элемент матрицы A[1][0]: 34
Введите элемент матрицы A[1][1]: 54
Введите элемент матрицы B[0][0]: 56
Введите элемент матрицы B[0][1]: 67
Введите элемент матрицы B[1][0]: 87
Введите элемент матрицы B[1][1]: -89
Введённые матрицы:
Матрица A:
-12 23
34 54
Матрица B:
56 67
87 -89
Передача на 51.158.73.185:20522...
Успешно передано.
PS C:\Users\vladislav\Projects\SystemProgramming\0x0A\Lab_05\buildcmake>
```

Рисунок 33 – Запуск клиента

4.4.5. Результат работы сервера



```
vladislav@MySandbox: ~/Projects/SystemProgramming/0x0A/Lab_05
vladislav@MySandbox:~/Projects/SystemProgramming/0x0A/Lab_05$ ./build/Lab_05_Server
Сервер запущен, ожидание подключения и приёма данных на порт 2052...
Принятые матрицы от клиента 176.215.108.66:
Матрица A:
-12 23
34 54
Матрица B:
56 67
87 -89

Матрица A+B:
44 90
121 -35

Определитель: -12430
vladislav@MySandbox:~/Projects/SystemProgramming/0x0A/Lab_05$
```

Рисунок 34 – Результат работы сервера