#define \_XOPEN\_SOURCE

#include <unistd.h>

#include <stdio.h>

#include <string.h>

#include <cs50.h>

int main(int argc, string argv[])

{

if (argc != 2)

{

printf("Usage: crack <hash>\n");

return 1;

}

const int letters\_count = 53;

string letters = "\0abcdefghijklmnopqrstuvwxyzABCDEFGHIJKLMNOPQRSTUVWXYZ";

string hash = argv[1];

char salt[3];

memcpy(salt, hash, 2);

salt[2] = '\0';

char key\_candidate[6] = "\0\0\0\0\0\0";

for (int fifth = 0; fifth < letters\_count; fifth++)

{

for (int fourth = 0; fourth < letters\_count; fourth++)

{

for (int third = 0; third < letters\_count; third++)

{

for (int second = 0; second < letters\_count; second++)

{

for (int first = 1; first < letters\_count; first++)

{

key\_candidate[0] = letters[first];

key\_candidate[1] = letters[second];

key\_candidate[2] = letters[third];

key\_candidate[3] = letters[fourth];

key\_candidate[4] = letters[fifth];

if (strcmp(crypt(key\_candidate, salt), hash) == 0)

{

printf("%s\n", key\_candidate);

return 0;

}

}

}

}

}

}

printf("Password couldn't be cracked!");

return 2;

}