The Predictable Password

Student Worksheet

Fundamentals of Cyber Security (CYBR 201), Fall 2026 | Dr. Ahmet Furkan Aydogan

Full name: _____

Student ID (9 digits): _____

Date: _____

Operating system used (Parrot / Kali):

_____

How to complete this worksheet. Work through Part II of the handout on your own Parrot machine. As you go, type each value into the lines and tables below, and paste each screenshot into its grey box (click inside the box, then press Ctrl+V). Every login attempt goes to your authorized John Doe training panel only. Save the finished file as Lastname_Firstname_PredictablePassword.docx (or export to PDF) and upload it.

Part A. Terminal and your working directory (Section A)

Directory your terminal opened in (from pwd):

_____

Command you typed to move into the Desktop:

_____

Full path of the lab folder you created (from pwd):

_____

Write, in your own words, what each command does:

Command	What it does (your words)
pwd	
ls	
cd	
mkdir	

A1. Give one example of a relative path and one absolute path that both reach your Desktop.

Relative path: _____

Absolute path: _____

Paste Screenshot A here: your mkdir / ls / pwd showing the lab folder and its subfolders.

Part B. Counting and sizing wordlists (Sections B, C, D)

Fill in the count (n to the power L) and the estimated size for each row. Generate only the first row (the 6-digit list); calculate the rest.

Character set	Set size n	Length L	Candidates (n^L)	Est. size
digits 0-9	10	6		
lowercase a-z	26	6		
lower + digits	36	6		
letters + digits	62	6		
+ symbols	94	6		

Measured real size of your 6-digit file (from du -h):

_____

B1. Your 6-digit file was 7,000,000 bytes. Why did ls report 7000000 while du -h reported about 6.7M? (One sentence on MB versus MiB.)

Type your answer here.

Paste Screenshot B here: wc -l, ls -l, and du -h for your 6-digit list.

Part C. Terminal observations (Sections B and E)

First line of numbers6.txt:

_____

Last line of numbers6.txt:

_____

Line count (from wc -l):

_____

C1. You started a crunch job that would have made nearly two terabytes. Which key combination did you press to stop it, and how did you know it had stopped?

Type your answer here.

C2. In one sentence, what is the difference between Ctrl+C and Ctrl+Z?

Type your answer here.

Part D. Guided example: Mia (Section F)

Keywords you pulled from Mia's biography:

The transformations you applied to those keywords:

Transformation	Example from your list
Case variants	
Two-digit ending	
Removed duplicates (sort -u)	

Candidates before removing duplicates:

_____

Candidates after sort -u (final count):

_____

Mia's recovered password (from hydra):

_____

Part E. Your task: John Doe (Section G)

From the John Doe profile page, record the facts you will use:

Fact from the biography	Value
Full name	
Date of birth (year)	
Dog's name	
Town / place	
Employer	
Team / hobby	

From the Register page, record the account rules exactly:

Username rule (maximum length):

_____

Password rule (exact length and allowed characters):

Your username candidates and why you chose each:

Username candidate	Why (from the biography / rules)

Your wordlist strategy (which tokens and which crunch -t templates you used):

Final candidate count in your John Doe wordlist:

_____

Authorized lab target (the panel address you attacked):

_____

Result of your login attempt (did you recover it? which username?):

Paste your evidence screenshot here: your successful John Doe sign in on the panel, in the browser. This capture is required.

Reflection

Q1. The count. A six-digit numeric wordlist held how many candidates, and how many bytes was the file? Show the arithmetic (n^L for the count, candidates times (L+1) for the size), and explain in one sentence why ls and du reported the size differently.

Type your answer here.

Q2. Brute force versus dictionary. In your own words, what is the difference between a brute force attack and a dictionary (wordlist) attack? For guessing Mia's password, which did you use, and why was it the right choice?

Type your answer here.

Q3. The transformations. List the tokens you pulled from John Doe's biography and the transformations you applied. How many candidates were in your final list, before and after removing duplicates?

Type your answer here.

Q4. The limits. Your targeted list was tiny compared to every possible password. What one change to his password would have kept it out of your list, and what does that change cost him in daily use?

Type your answer here.

Q5. Defense. You run the login service John Doe uses. Name two defenses that would stop the attack you just ran even if his password stayed weak, and say in one sentence why each one works.

Type your answer here.

Submission

Save this worksheet as Lastname_Firstname_PredictablePassword.docx (or export to PDF) with every value typed, all screenshots pasted, and all answers written, then upload it. Point your tools at the John Doe training panel only. A correctly reported result, with your attempts recorded, earns the points; an invented password earns zero.