

PROGRAMMING A FRIEND

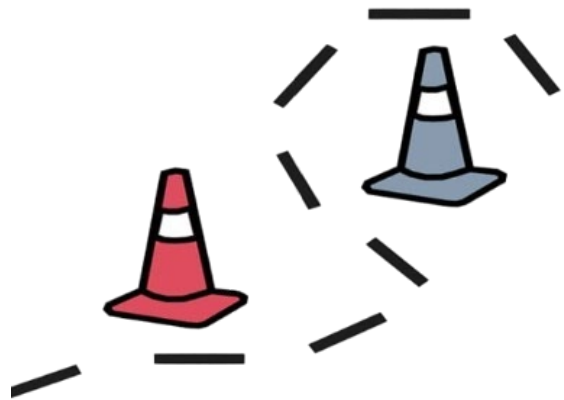
UNIT: ELECTRONICS/CODING LEVEL 1- ACTIVITY 1

THE PROBLEM:

This activity is designed to strengthen your attention to detail and ability to effectively communicate. Your goal is to create a mini-obstacle course and list of written commands that a blindfolded participant could successfully navigate.

CONSTRAINTS AND CRITERIA

1. Sketch the layout of your course including required obstacles and direction of travel.
2. Write 4 clear commands to guide a blindfolded participant through your course.
3. Participant must start at one of the cones and end at the other.
4. You may only include one task per command.
5. You will not be able to clarify or repeat the command for the participant.
6. Your goal is success for you and the blindfolded participant. You will succeed if they are able to complete each command correctly and they reach the end cone.



MATERIALS:

- Two cones or other items to mark starting and ending points
- Hula Hoop or other item(s) to interact with
- Bandana or blindfold

TOOLS:

- ✓ Pencil

DIRECTIONS:

Be sure to check off each step ☒ as you progress.

- ☐ **Step#1** – Define the Problem

Read the problem listed on the first page and write it in your own words (p. 3).

☐ **Step#2 – Define the Criteria**

Listen and read along as your teacher reads the activity and constraints. Note any additional constraints your instructor gives you and write down the hardest criteria you will have to deal with (p. 3).

☐ **Step#3 – Develop Ideas**

Plan and sketch out your course. Think about what you would like the participant to do after each command is read. Use tasks everyone can understand and are able to do. You may want to consider “stepping off” the space to help you decide distances. (p. 3).

☐ **Step #4 – Develop Solutions**

Write four separate commands. (p. 4) Choose your words carefully. The blindfolded participant will not be allowed to ask questions or ask you to repeat. Each command can only include one single action.

☐ **Step #5 – Testing and Evaluating**

- Run through the commands in your mind, imagining various people as the blindfolded participant or have a classmate read through them. Revise your commands as needed to make sure anyone would have success in each task.
- When it’s your turn, set up your course and read your commands aloud clearly for a blindfolded participant to attempt.
- Complete the observation questions after the trial of your course and each of the courses of your classmates. (p. 5)

☐ **Step #6 – Present and Produce**

Answer the questions in the reflection section. Turn in the design brief.

STEP 1: Describe the problem in your own words. You can use drawings too.

STEP 2: Think about the problem and constraints your teacher gave you. What are the hardest criteria you will have to deal with?

STEP 3: Draw a rough sketch below of how you would position the obstacle course items. Label the start and end cones. Include arrows to show the direction of travel and any other labels you feel may be helpful.

STEP 4: Write your commands here. These commands will be read aloud to the blindfolded participant to guide them through your course.

#1

#2

#3

#4

STEP 5: Observation Questions – List a response for each course run. Number or write bullet points to separate your responses.

- What specifically worked well for this course and its commands?

- What specifically did not work well for this course and its commands?

STEP 6: Reflection

1. Which of your commands was the most effective? List the number and explain what specifically made it successful.

2. Which of your commands was the least effective? List its number and then rewrite the command to make it more effective.

3. Brainstorming – In what ways might writing commands for an obstacle course like this be similar to computer coding?

GRADING RUBRIC:

	Indicator not demonstrated	Indicator partially demonstrated	Indicator adequately demonstrated	Indicator effectively demonstrated
Design Brief	Incomplete Less than 50% complete	Inadequate Mostly complete; Criterion not met	Adequate Criterion met; more attention to neatness or detail needed	Exceptional Meets or exceeds expectations; high effort & attention to detail
Points /4	1	2	3	4
Obstacle Course Sketch & Commands	Incomplete Sketch or commands not completed	Inadequate Criterion not met on sketch or commands	Adequate Criterion met; more attention to neatness or detail needed	Exceptional Meets or exceeds expectations; shows high effort and attention to detail
Points /4	1	2	3	4
Design Plan & Process	Incomplete Did not complete or skipped steps in the process	Inadequate Frequent assistance needed in process	Adequate Limited or no prompting needed	Exceptional Independent completion; steps taken to check or test commands
Points /4	1	2	3	4
Time Management & Effort	Incomplete Was unable or refused to participate in course testing	Inadequate Frequent reminders needed to stay on task; fell behind	Adequate Limited prompting needed; on task, appropriate effort & behavior	Exceptional Independent & effective time management
Points /4	1	2	3	4
Observations & Revision	Incomplete Comments incomplete or command not rewritten	Inadequate Comments written for courses tested were vague or unrelated, command rewritten but not effectively	Adequate Comments written for each course tested, command rewritten	Exceptional Detailed insightful comments written, Command greatly improved with rewrite
Points /4	1	2	3	4