

## Ri Off the Shelf Masterclass: Artificial Intelligence

### Solutions - Worksheet 1 – Training an AI

Ash runs a fun fair and has built an AI prize bot that will give each of the game winners an animal stuffed toy. Ash has trained the bot themselves, and tried to make it fair, so that it gives anyone who wins a prize after they give the bot their age, favourite animal, and favourite colour. But there's a problem, during initial tests the AI prize bot seems to be unfair! Some people are given a prize by the bot, while others never receive a prize.

**Can you figure out why the bot does not give a prize in each of the tests?**

*Hint: For each test, try to spot the pattern in who does not win a prize.*

#### **Test 1: Whack-a-Mole Winners**

In Ash's first test on the whack-a-mole game, they notice that the bot is not giving prizes to everyone. They need to figure out why this is happening, so they can fix it!

Name	Age	Favourite Colour	Favourite Animal	Prize Given?
Sarah	10	Blue	Giraffe	Yes
Alex	10	Orange	Rabbit	<b>No</b>
Mia	11	Green	Cat	Yes
Jake	10	Red	Cat	Yes
Priya	11	Orange	Dog	<b>No</b>
Oliver	11	Blue	Horse	Yes
Charlie	10	Orange	Dolphin	<b>No</b>

1. What do all the people who do not win a prize have in common?

*They all chose Orange as their favourite colour*

2. What can Ash do to improve the bot and make sure everyone is given a prize?

*Ash could include as many colours as possible when training the AI bot*

#### **Test 2: Hook a Duck Winners**

Ash has fixed the issue from the previous test, and moved onto the hook a duck game, but there are still people who do not get given a prize!

Name	Age	Favourite Colour	Favourite Animal	Prize Given?
Ria	9	Pink	Lion	<b>No</b>
James	8	Orange	Rabbit	<b>No</b>
Lara	10	Pink	Cat	Yes
Nick	10	Blue	Lion	Yes
Hajat	9	Green	Dog	<b>No</b>
Ali	8	Blue	Horse	<b>No</b>
Sophia	11	Orange	Dolphin	Yes

1. What do all the people who do not win a prize have in common?

*They are all younger than 10*

2. What can Ash do to improve the bot and make sure everyone is given a prize?

*Ash could make sure all ages are inputted when training the AI bot.*

### **Test 3: Fun Fair Winners**

Ash has fixed the issue from the previous test, and now thinks the bot is ready to give prizes for the whole fun fair, but there is now a new problem!

<b>Name</b>	<b>Game Played</b>	<b>Age</b>	<b>Favourite Colour</b>	<b>Favourite Animal</b>	<b>Prize Given?</b>
Niamh	Whack-a-Mole	12	Pink	Donkey	Yes
Luke	Hook a Duck	9	Blue	Monkey	Yes
Priti	Ring Toss	11	Yellow	Cat	<b>No</b>
Dom	Coconut Shy	10	Red	Lion	<b>No</b>
Cleo	Whack-a-Mole	8	Pink	Dog	Yes
Hannah	Ring Toss	11	Green	Seal	<b>No</b>
Aran	Hook a Duck	10	Red	Panda	Yes

1. What might have caused the bot to not give prizes to some of the players?

*They are playing new games – Ring Toss and Coconut Shy. If Ash did not test the bot on these, they bot may not know to give them a prize.*

2. What can Ash do to improve the bot and make sure everyone is given a prize?

*Ash could make sure that the AI bot is tested on all the games.*