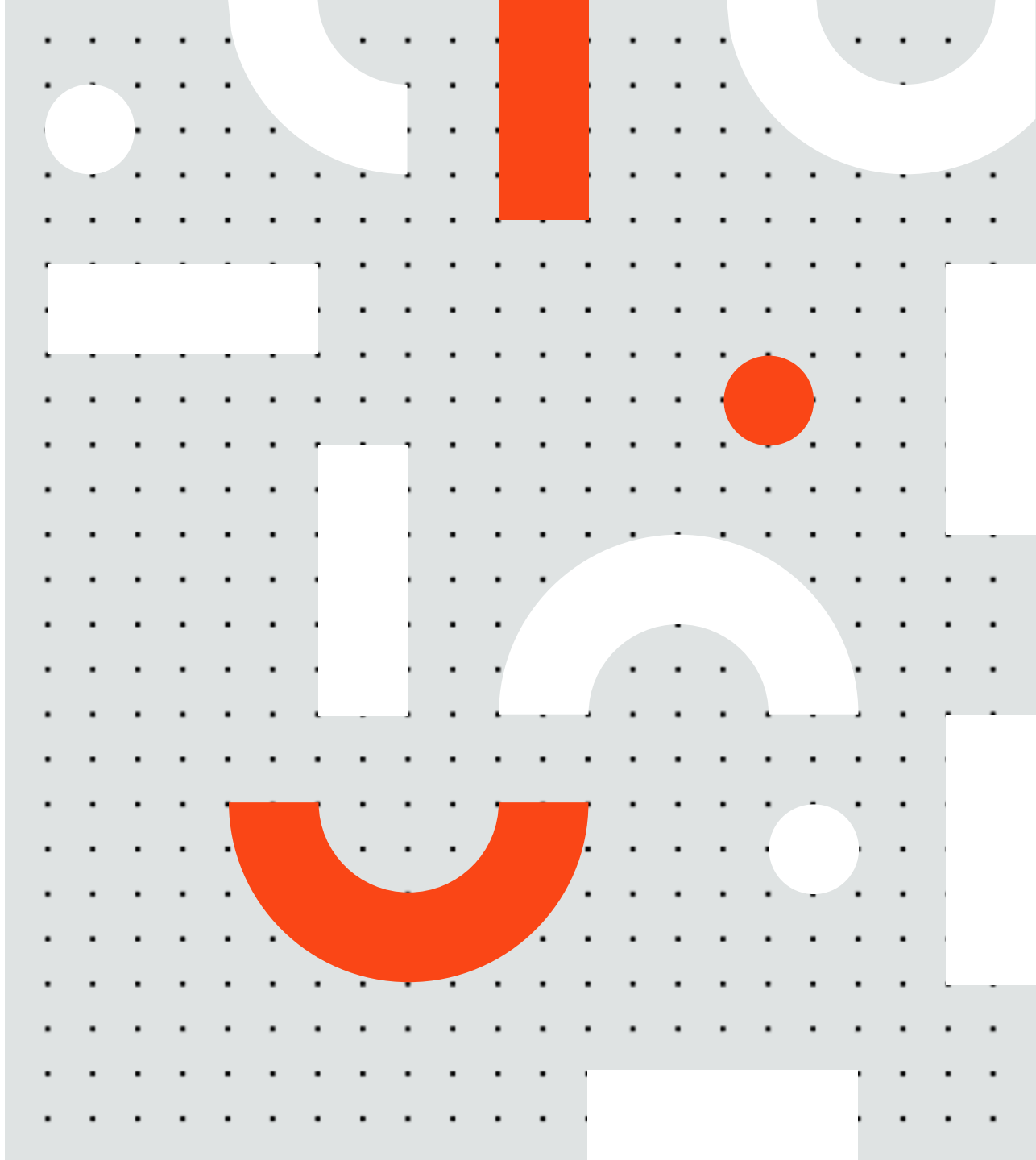
RPA Design & Development v1.1

Lesson 3
RPA Basics

UiPath™



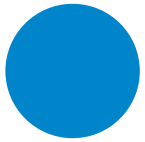
Agenda

Automation and RPA

- History of Automation
- Automation and its benefits
- Introduction to RPA

Programming Constructs in RPA

- Processes and Flowcharts
- Control flow in RPA
- RPA Programming constructs



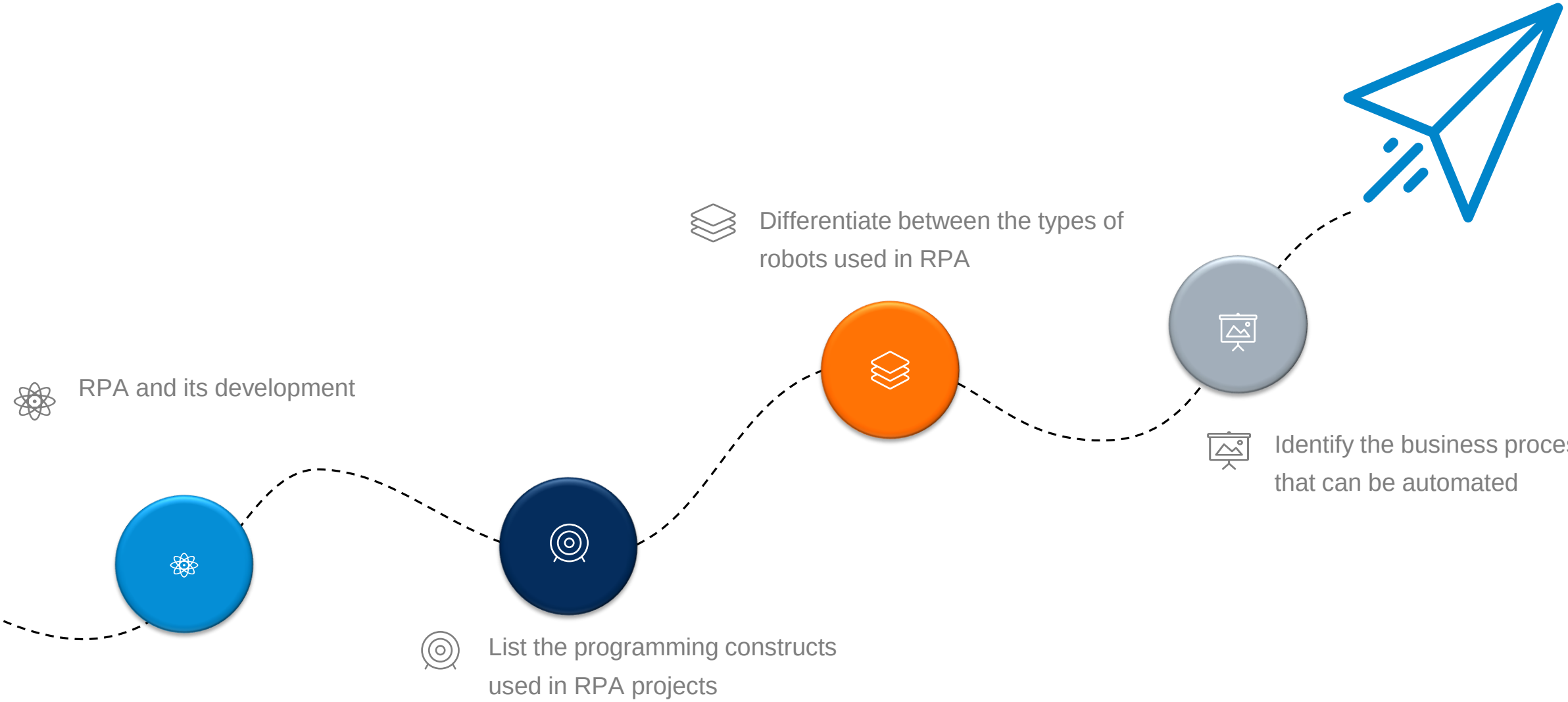
Robots in RPA

- Introduction to Robots
- Types of Robots

RPA in Business and Technology

- Processes and Automation
- Benefits of RPA Automation

Learning Objectives



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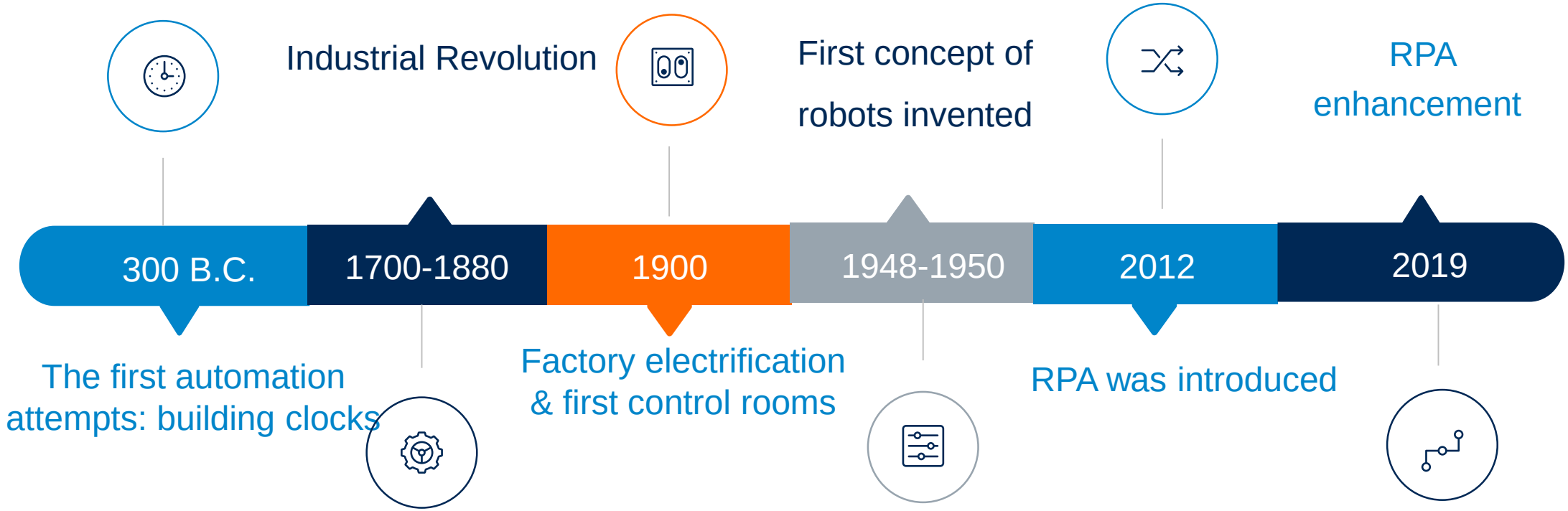
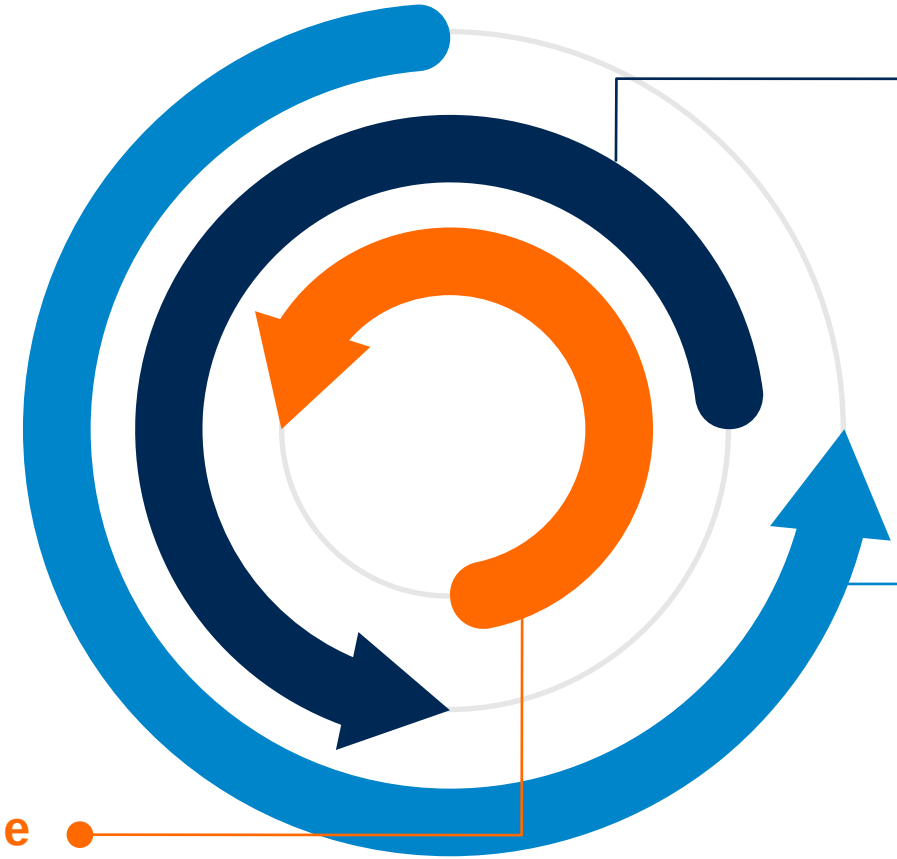
The History of Automation



Introduction to Automation

Automation is defined as a process that improves any activity, by making it faster and more efficient.



Where is it used?
In Business and Technology

What is it?
The operation of machinery, processes, or systems by mechanical or electronic equipment instead of humans

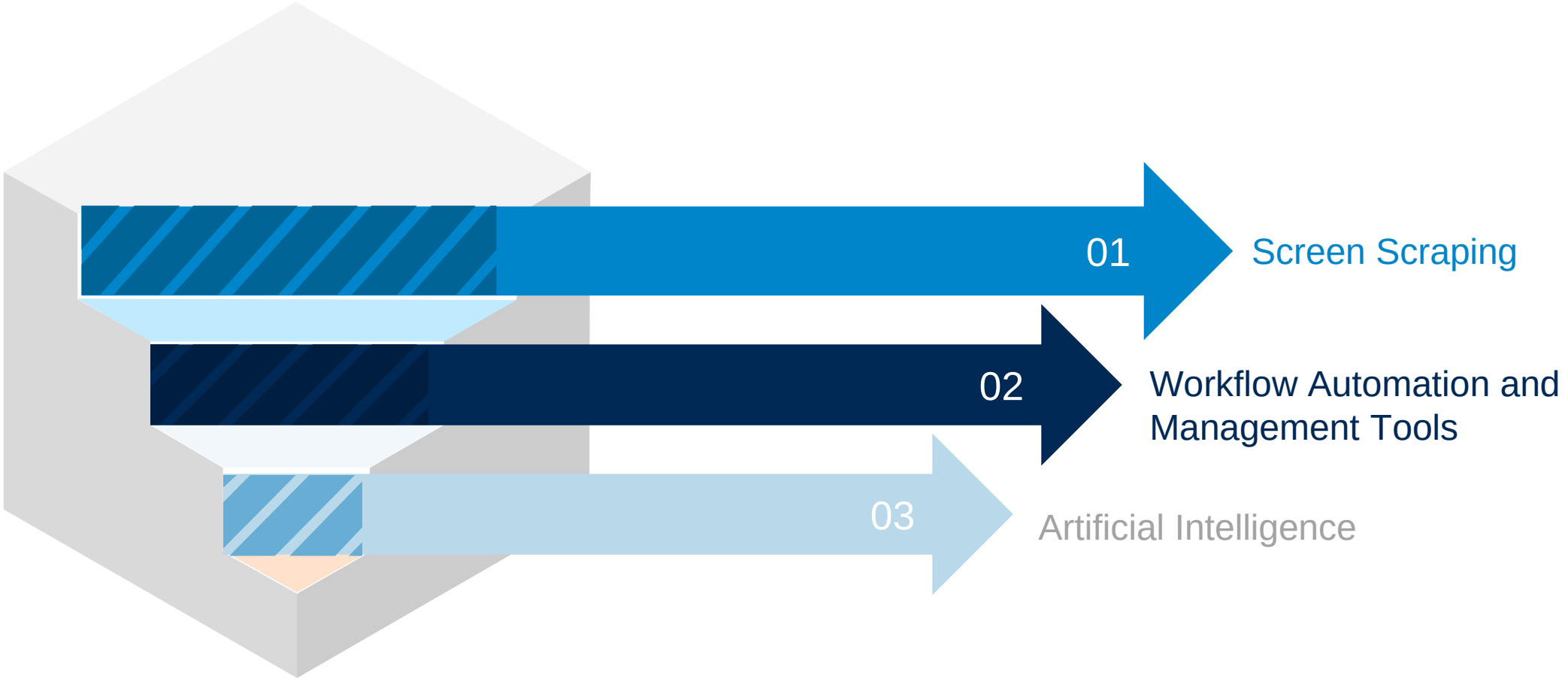
Usage example
Assembly line automation

Benefits of Automation

The benefits of automation are:

Journey from Automation to RPA

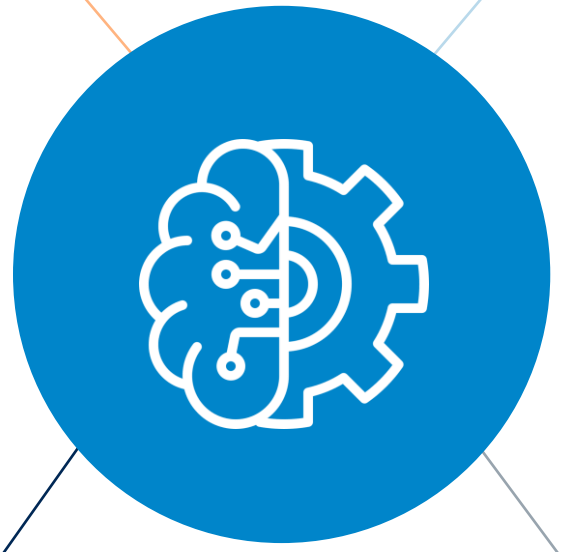
With the evolution of technology, the concept of automation improved and evolved as Robotics Process Automation.



Introduction to **RPA**

RPA stands for Robotic Process Automation

RPA refers to software robots programmed to replicate the actions of human operator



Robots interact with applications to execute rule-based tasks

RPA has led to the growth of virtual robotic workforce

Advantages of RPA

The advantages of adopting an RPA solution into business are:

Automation vs RPA

These below features will help explore the characteristics of Automation and RPA:

Automation	Robotics Process Automation
The method by which we improve the existing process and improve the efficiency is called automation	The advanced form of automation involving latest technology like screen scraping , workflow and Artificial intelligence
This was first time used in heavy industry by DS Harder an engineer working for Ford motors .	The term was coined by Blue Prism in 2012
Example: Heavy Industries like: Automobile, Manufacturing etc.	Example: Finance, Healthcare, Insurance etc.

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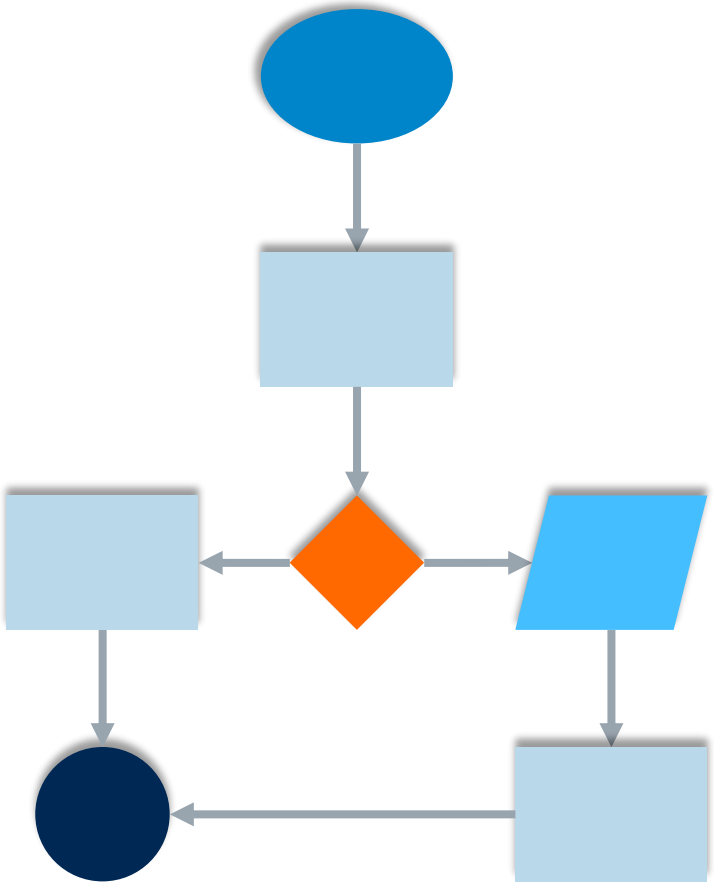
Process

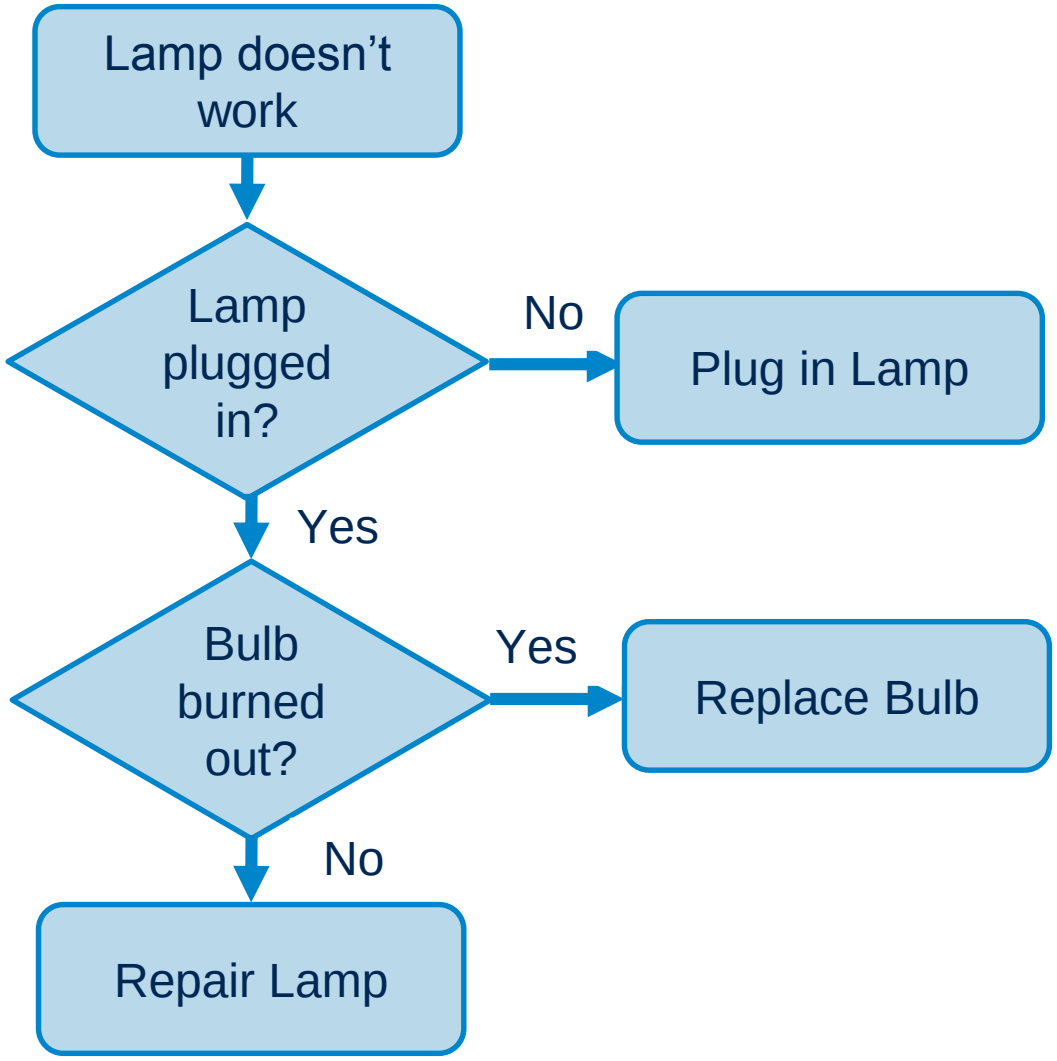
A process is defined as a series of steps, activities, and decisions involved in the way work is accomplished.



1. There are typically two ways to represent a process:
   - As a sequence, where actions come one after the other
   - As a flowchart, where there are multiple decision points and logical branches
2. The process chosen for automation is split into simple actions and mapped in the RPA tool.
3. The RPA developer analyzes and configures the mapped process by introducing decision points, variables, pre-defined operations, and other types of elements available in the RPA tool.
4. Once the logic is replicated in the workflow, the process is ready for automation.

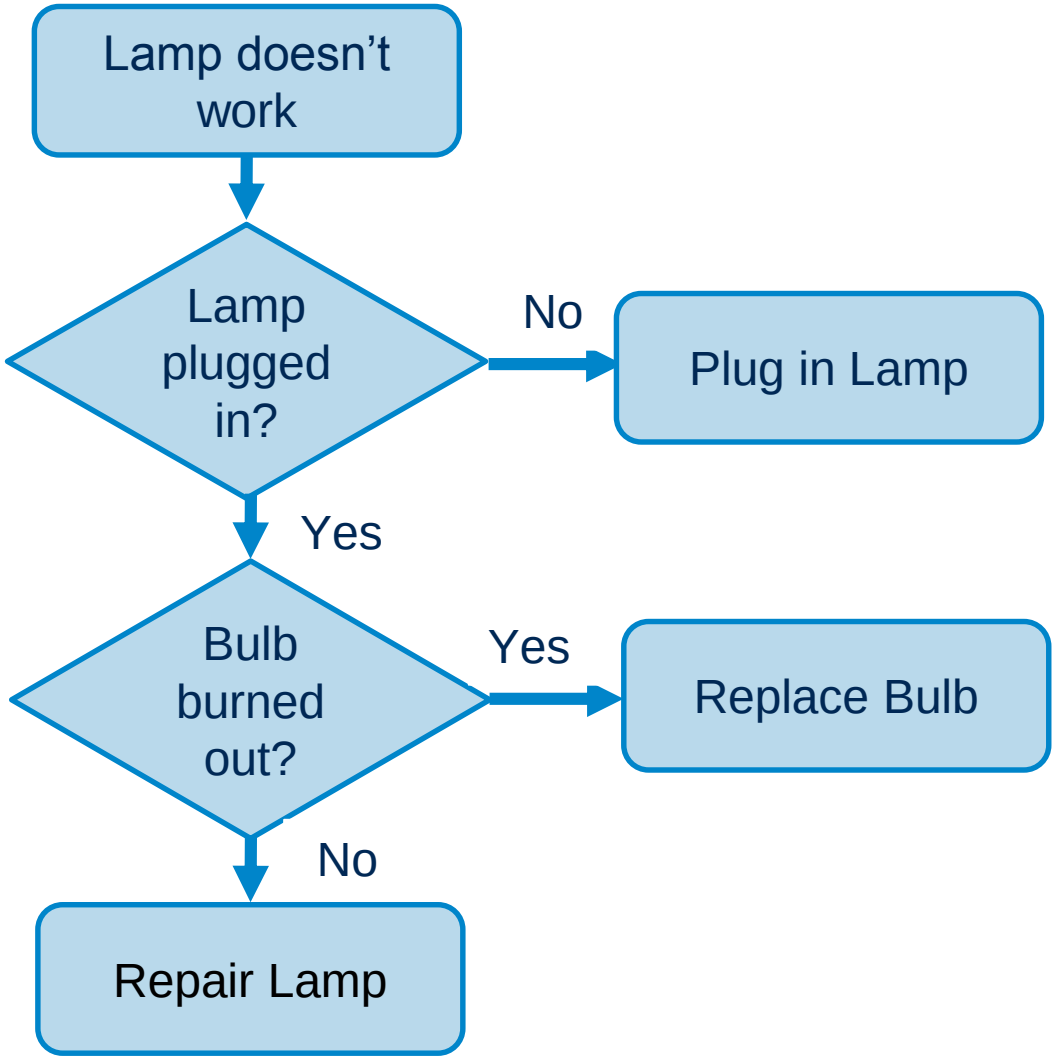
Flowchart

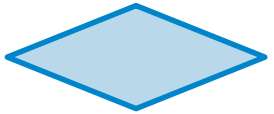
Flowchart depicts the flow of a program and is also known as process flow diagram.



Symbols used in a Flowchart

The common symbols used in a flowchart are:



Symbol	Name
	Start/end
	Arrows
	Input/output
	Process
	Decision

RPA Programming Constructs

Programming constructs are the backbone of any programming language. Some important programming constructs are:

RPA Programming Constructs

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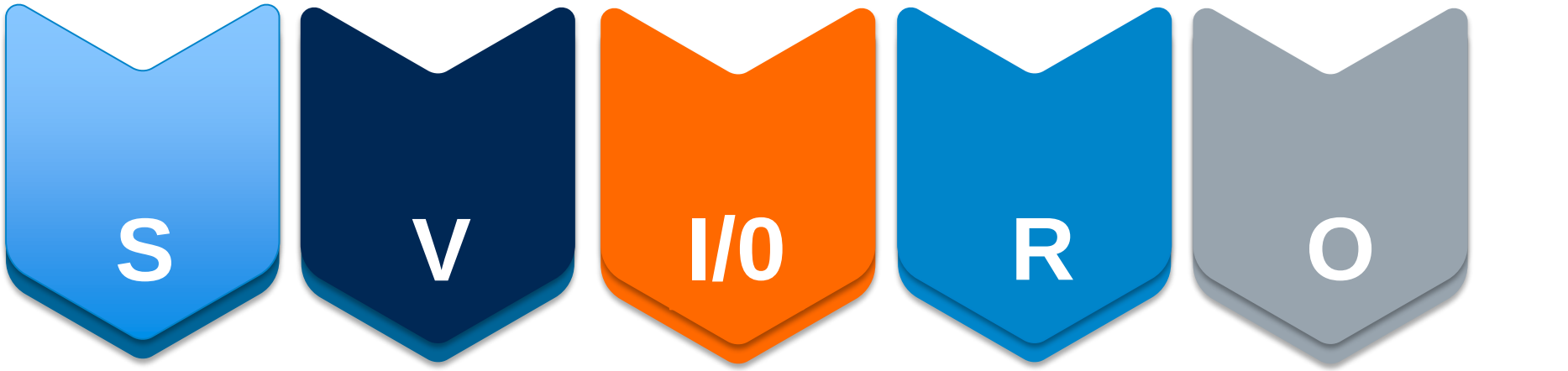

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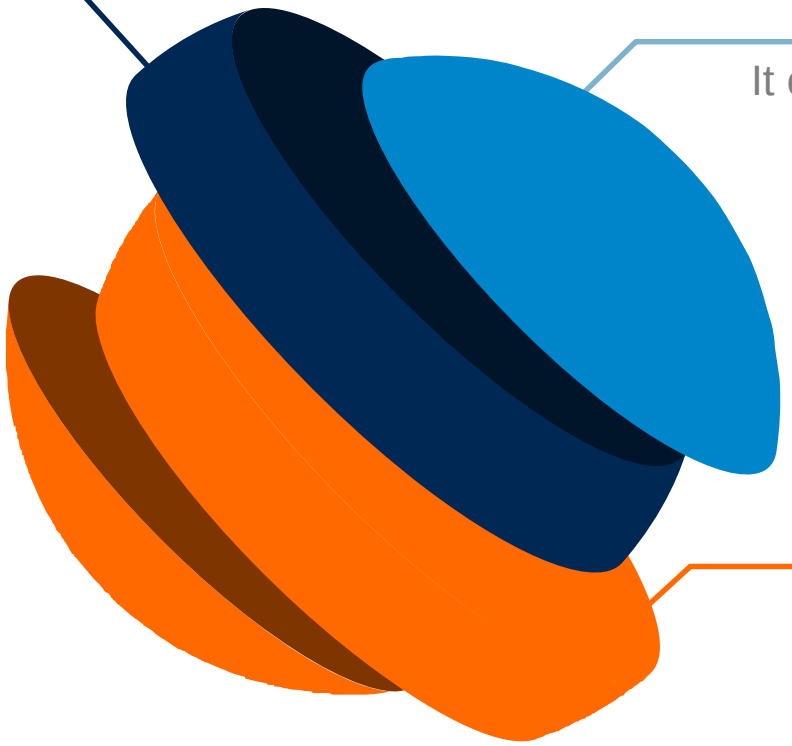
RPA Robot

A robot is a software that can execute workflows containing multiple steps.



It can mimic human actions such as type, click and read data

It can perform complex calculations and decision making

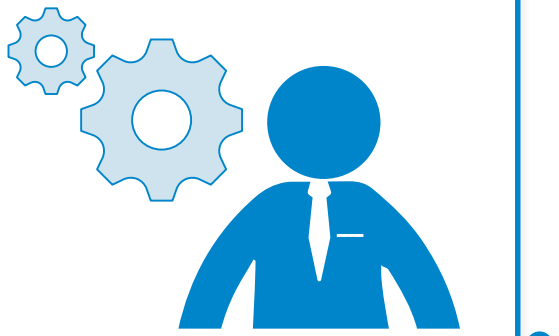
It can log into applications, move files/folders, and copy paste data

Types of RPA Robots

In RPA, robots are categorized on the basis of manual intervention required.

Attended

Robots that collaborate with a human worker.



Unattended

Standalone robots that perform workflows.

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Processes Best Suited for RPA

Processes that are simple, structured and can be easily mimicked by a machine are best suited for RPA.

Repetitive Processes

Processes that are done iteratively and are very similar

.

Rule-based Processes

Processes that can be translated into a set of rules

Structured Processes

Processes that are well-defined or structured

Workloads Best Suited for RPA

Workloads involving various business processes and transactions are a good candidate for RPA.

Workload refers to the amount of task done by an individual.

Workloads on mainframes, clusters, distributed, virtual and cloud environments are best suited for RPA.

Benefits of RPA

RPA has led to an improvement in the quality of work and made processes more scalable, resulting in:

- Higher quality services and greater accuracy
- Improved analytics
- Reduced costs
- Increased speed
- Greater compliance

- Agility
- Comprehensive insights
- Versatility
- Simplicity
- Scalability

Implementation of RPA

RPA has been implemented in various business areas to perform repetitive and time-consuming tasks.

HR Services

Process Examples:

- Recruitment
- Payroll
- Personnel administration

Finance and Accounting

Process Examples:

- Procurement to pay
- Order to cash
- Vendor management

IT Services

Process Examples:

- Password reset
- Account unlock
- Chatbot integration

Supply Chain

Process Examples:

- Inventory Management
- Invoice/Contract Management
- Work Order Management

Practice Makes Perfect…

Think of a process in your life or job that can be automated. Now let's look at the programming concepts and identify possible input/output, risk, and other features that a developer should be aware of to implement this process.

- What are some of the benefits of automating a part of your job/life?
- What are some risks?
- What parts of the process are difficult to automate, what parts are simple?
- Can we calculate the cost of automating this process, with the benefit of having it automated?

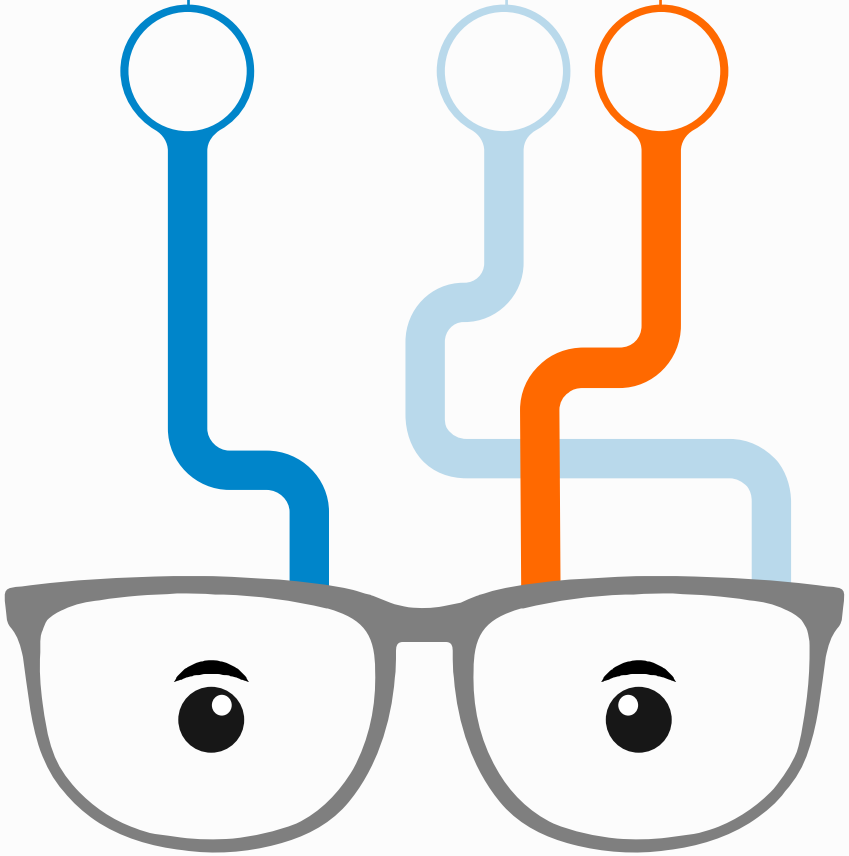
Takeaways

Automation and RPA

Automation is defined as a process of improving an activity by removing repetitive tasks.

RPA refers to software robots programmed to replicate the actions of human operator.

A process is defined as a series of steps, activities, and decisions involved in the way work is accomplished.



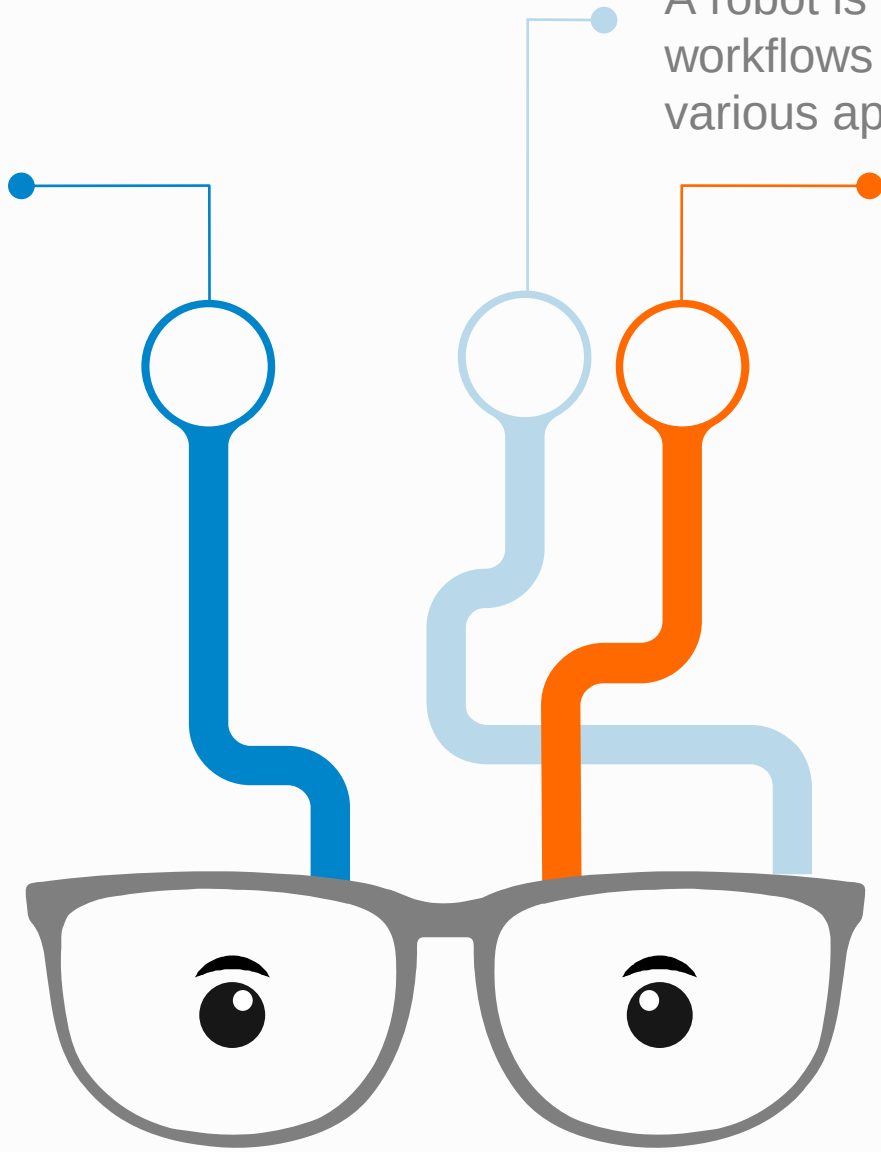
Takeaways

Programming constructs, Robots, RPA in Business and Technology

Programming constructs are the backbone of any programming language.

A robot is a software that can execute workflows containing multiple steps in various applications.

RPA works best for repetitive, rule based and structured processes.



Questions & Answers

Who coined the term – Automation?

a) Henry Ford

b) DS Harder

c) Mark Austin

d) Graham Bell

What is RPA?

a) Robot Process Automation

b) Robotic Process Automation

c) Robotics Process Argument

What does the Diamond symbol in a flowchart represent?

a) Input

b) Output

c) Decision Making

d) Event

RPA is best suited for _____.

a) Repetitive process

b) Unstructured process

c) Complex data process

Next Steps

Module 2 Lesson 2: RPA Advanced Concepts