

AI Playground



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What's AI x?

- Artificial Intelligence- The ability of machine to think and behave like humans.
- How does the machine learn on its own? - That is called Machine Learning. ML is the study of computer algorithms that improve automatically with experience.
- Just like humans learn with experience - Machines also learn with experience!
- Examples of common AI? Alexa, Siri, Google Home, Self Driving Cars, Robots etc.

What's out there?



How do computers make decisions?

Conditional statements

are used to perform different actions based on different conditions.

- In many programming languages, decisions (also called conditionals) take the form of an if-then construct. They start with a condition, which is then evaluated as either True or False.
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Let's Build that

```
# Define a numerical column with statistics.
def Num(txt: str = " ", at: int = 0) -> Obj:
    return Obj(it=Num, txt=txt, at=at, n=0, mu=0, sd=0, m2=0, hi=-BIG, lo=BIG,
               goal = 0 if txt[-1]=="-" else 1)

# Define a symbolic column with frequency counts.
def Sym(txt: str = " ", at: int = 0) -> Obj:
    return Obj(it=Sym, txt=txt, at=at, n=0, has={}, most=0, mode=None)

# Define a collection of columns with metadata.
def Cols(names: List[str]) -> Obj:
    x,y,lst,klass = [], [], [], None
    for col in [(Num if s[0].isupper() else Sym)(s,n) for n,s in enumerate(names)]:
        lst.append(col)
        if col.txt[-1] != "X":
            (y if col.txt[-1] in "+-!" else x).append(col)
            if col.txt[-1] == "!": klass=col
    return Obj(it=Cols, names=names, all=lst, x=x, y=y, klass=klass)

# Define a dataset with rows and columns.
def Data(src: List[row], txt: str = "") -> Obj:
    return adds(src, Obj(it=Data, txt=txt or "", n=0, rows=[], cols=None))
```

What we learned. - Bot.send() method - if else statements.

Build a basic greetings bot



Benefits of AI Playground

- Streamlines a lot of back end operations, so that the you can just learn what AI is — and can get immediate results!
- User friendly!
- Designed to suit students needs.
- Students can see and publish new projects and thus learn from each other.

How does learning AI help?

- Logical reasoning and Sequencing
- Critical thinking
- Problem solving
- Mental Mathematics
 - The above skills are implicit skills that students learn along with AI. And this helps them in academics, life, etc.

The well known Pythagorean theorem $x^2 + y^2 = z^2$ was proved to be invalid for other exponents. Meaning the next equation has no integer solutions:

$$x^n + y^n = z^n$$

Can AI, help find near misses for this equation?