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Foundation Certificate for Higher Education

Module: DOC 333 Introduction to Programming Principles

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# Introduction

## The Problem

The solution that is created is for the problem to maintain the details of projects the construction company named “XYZ” undertakes. The solution which is an information system is built using Python programming language. The main functionality of the information system is listed below.

# Algorithm

The solution which is implemented by Python Programming language is stated below in the form of algorithm steps and with an explanation of how each aspect of the program functions.

## Syntax of the algorithm steps

* `variable\_name` meaning that the variable is used which is within the ``

## Alogirhtm STEPS

1. Start
2. # importing packages

* IMPORT datetime

1. # initialization of variables

* SET company\_name TO “XYZ Company”
* SET workers TO 0
* SET choice TO 0
* SET all\_projects TO []
* SET completed\_projects TO []
* SET execute TO True
* SET project\_names TO []
* SET possible\_inputs TO [“ongoing”, “completed”, “onhold”]
* SET statistics\_list TO [0] \* len(possible\_inputs)
* SET redirect\_choice TO False
* SET redirect\_to TO None

1. define function menu(redirect,to,company\_name,msg):

* SET main\_menu TO company\_name + ”””

Main Menu

1. Add a new project to existing projects.
2. Remove a completed project from existing projects
3. Add new workers to available workers group
4. Update details on ongoing projects
5. Project Statistics
6. Exit

“””

* OUTPUT “Redirecting…” if `redirect` is True else main\_menu
* RETURN `to` if `redirect` is True else INPUT user choice

1. define function remove\_completed\_projects(code\_of\_project,every\_project,workers\_tot,stats\_list,complete\_projects,possible\_stats):

* TRY
* SET index\_of\_project TO project\_names.index(code\_of\_project)
* SET date\_time TO datetime.datetime.now()
* SET actual\_end\_date TO date\_time.strftime(“%m/%d/%Y”)
* SET code\_of\_project,clients\_name,start\_date,expected\_end\_date,number\_of\_workers,\_,index TO every\_project[index\_of\_project]
* SET completed\_project\_details TO [code\_of\_project,clients\_name,start\_date,expected\_end\_date,number\_of\_workers,actual\_end\_date]
* SET workers\_tot TO workers\_tot + num\_of\_workers
* SET stats\_list[index] TO stats\_list[index] - 1
* SET stats\_list[possible\_stats.index(“completed”)] TO stats\_list[possible\_stats.index(“completed”)] + 1
* SET completed\_projects TO completed\_projects