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```
"openapi": "3.0.1",
  "info": {
    "title": "Robot Controller API",
    "description": "New backend service that provides resources for the Moon robot simulator.",
    "contact": {
      "name": "Prerna Shahi",
      "email": "s222486984@deakin.edu.au"
    }
  },
"paths": {
    "/api/maps": {
      "get": {
        "tags": [
          "Maps"
        ],
"summary": "Retrieves all maps.",
        "responses": {
          "200": {
            "description": "Returns Ok with the list of maps",
            "content": {
              "text/plain": {
                "schema": {
   "type": "array",
                  "items": {
                     "$ref": "#/components/schemas/Map"
                }
              },
               "application/json": {
                 "schema": {
                  "type": "array",
                  "items": {
                     "$ref": "#/components/schemas/Map"
                }
              },
              "text/json": {
                 "schema": {
                  "type": "array",
                   "items": {
                     "$ref": "#/components/schemas/Map"
                  }
                }
              }
            }
          }
        }
      "post": {
        "tags": [
          "Maps"
        "summary": "Creates a map.",
        "description": "Sample request:\r\n
                                                                 POST /api/maps\r\n
                                                         \r\n
                                                                                      {\r\n
\"Columns\": 5,\r\n
                           \"Rows\": 6,\r\n
                                                   \"Name\": \"Map 5\",\r\n
                                                                                   \"Description\": \"
Not Square\"\r\n
        "requestBody": {
          "description": "A new map from the HTTP request.",
          "content": {
            "application/json": {
              "schema": {
                "$ref": "#/components/schemas/Map"
              }
            "text/json": {
              "schema": {
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},
"application/*+json": {
            "$ref": "#/components/schemas/Map"
        }
      }
    },
"responses": {
      "201": {
        "description": "Returns the newly created map"
     },
"400": {
        "description": "If the map is null, or addition fails",
        "content": {
          "text/plain": {
            "schema": {
              "$ref": "#/components/schemas/ProblemDetails"
            }
          },
"application/json": {
              "$ref": "#/components/schemas/ProblemDetails"
            }
          "text/json": {
            "schema": {
              "$ref": "#/components/schemas/ProblemDetails"
          }
        }
     },
"409": {
        "description": "If a map with the same name already exists.",
        "content": {
          "text/plain": {
            "schema": {
              "$ref": "#/components/schemas/ProblemDetails"
            }
          },
          "application/json": {
            "schema": {
              "$ref": "#/components/schemas/ProblemDetails"
            }
          "text/json": {
            "schema": {
              "$ref": "#/components/schemas/ProblemDetails"
         }
       }
     }
   }
  }
"get": {
    "tags": [
      "Maps"
    "summary": "Retrieves only square maps.",
    "responses": {
      "200": {
        "description": "Returns Ok with the list of maps that are square",
        "content": {
          "text/plain": {
            "schema": {
```

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items": {
               "$ref": "#/components/schemas/Map"
           }
         },
"application/json": {
            "schema": {
             "type": "array",
              "items": {
                "$ref": "#/components/schemas/Map"
            }
         "schema": {
              "type": "array",
              "items": {
                "$ref": "#/components/schemas/Map"
            }
      }
     }
   }
  }
"get": {
    "tags": [
      "Maps"
    "summary": "Retrieves a map by its ID.",
    "operationId": "GetMap",
    "parameters": [
      {
        "name": "id",
        "in": "path",
        "description": "The ID of the map to retrieve.",
        "required": true,
        "schema": {
          "type": "integer",
          "format": "int32"
       }
     }
    "responses": {
      "404": {
        "description": "If the Map was not found",
        "content": {
          "text/plain": {
            "schema": {
              "$ref": "#/components/schemas/ProblemDetails"
           }
          "application/json": {
            "schema": {
              "$ref": "#/components/schemas/ProblemDetails"
            }
          },
          "text/json": {
            "schema": {
              "$ref": "#/components/schemas/ProblemDetails"
         }
       }
     },
"200": {
        "description": "Returns Ok with the map object"
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        }
       'put": {
        "tags": [
          "Maps"
        ], "summary": "Updates an existing map.",
        "description": "Sample request:\r\n
                                                                  PUT /api/maps/:id\r\n
                                                         \r\n
                                                                                            \{\r\setminus n
                                               \"Name\": \"Map 4\"\r\n
\"Columns\": 5,\r\n
                          \"Rows\": 5,\r\n
        "parameters": [
          {
            "name": "id",
            "in": "path",
            "description": "The ID of the map to update.",
            "required": true,
            "schema": {
  "type": "integer",
  "format": "int32"
            }
          }
        requestBody": {
          "description": "The updated map details from the HTTP request.",
          "content": {
            "application/json": {
              "schema": {
                "$ref": "#/components/schemas/Map"
            "schema": {
                "$ref": "#/components/schemas/Map"
              }
             "application/*+json": {
              "schema": {
                "$ref": "#/components/schemas/Map"
            }
          }
        "responses": {
          "404": {
            "description": "If the map isn't found in database",
            "content": {
              "text/plain": {
                "schema": {
                   "$ref": "#/components/schemas/ProblemDetails"
                }
              "application/json": {
                "schema": {
                  "$ref": "#/components/schemas/ProblemDetails"
                }
              },
              "text/json": {
                "schema": {
                   "$ref": "#/components/schemas/ProblemDetails"
              }
            }
          },
"204": {
            "description": "No Content if map is updated sucessfully"
          "400": {
            "description": "If update failed.",
            "content": {
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scnema": {
               "$ref": "#/components/schemas/ProblemDetails"
            }
          },
"application/json": {
               "$ref": "#/components/schemas/ProblemDetails"
          "schema": {
               "$ref": "#/components/schemas/ProblemDetails"
          }
        }
      }
    }
 "tags": [
"Maps"
    ],
"summary": "Deletes an existing map.",
    "parameters": [
        "name": "id"
        "in": "path",
        "description": "The ID of the map to delete.",
        "required": true,
        "schema": {
  "type": "integer",
  "format": "int32"
        }
      }
    "responses": {
      "404": {
        "description": "If the map isn't found in database",
        "content": {
          "text/plain": {
             "schema": {
               "$ref": "#/components/schemas/ProblemDetails"
            }
          },
           "application/json": {
             "schema": {
               "$ref": "#/components/schemas/ProblemDetails"
            }
          },
          "text/json": {
             "schema": {
               "$ref": "#/components/schemas/ProblemDetails"
          }
        }
      },
"204": {
"195cr
        "description": "No Content if Map was deleted"
      }
    }
  }
},
"/api/maps/{id}/{x}-{y}": {
   .
'get": {
    "tags": [
      "Maps"
    "summary": "// Check whether the coordinate fits in a specific map.",
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"name": "id"
    "in": "path",
    "description": "The ID of the map that the coordinate is checking it fits in.",
    "required": true,
   "schema": {
  "type": "integer",
  "format": "int32"
    }
 },
 {
   "name": "x",
    "in": "path",
    "description": "The x value of the coordinate.",
    "required": true,
   "schema": {
  "type": "integer",
  "format": "int32"
    }
 },
   "name": "y",
    "in": "path",
    "description": "The y value of the coordinate.",
    "required": true,
   "schema": {
  "type": "integer",
  "format": "int32"
   }
 }
"responses": {
 "400": {
    "description": "If the coordinate values weren't negative",
    "content": {
      "text/plain": {
        "schema": {
          "$ref": "#/components/schemas/ProblemDetails"
        }
      },
      "application/json": {
        "schema": {
          "$ref": "#/components/schemas/ProblemDetails"
        }
      },
      "text/json": {
        "schema": {
           "$ref": "#/components/schemas/ProblemDetails"
      }
   }
    "description": "A map that matches in the input id wasn't found",
    "content": {
      "text/plain": {
        "schema": {
           "$ref": "#/components/schemas/ProblemDetails"
        }
      "application/json": {
        "schema": {
          "$ref": "#/components/schemas/ProblemDetails"
        }
      "text/json": {
        "schema": {
          "$ref": "#/components/schemas/ProblemDetails"
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}
          },
"200": {
            "description": "Returns Ok with the boolean result of whether the coordinate is on the
map"
        }
      }
    },
"/api/robot-commands": {
      "get": {
        "tags": [
          "RobotCommands"
        ],
"summary": "Retrieves all robot commands.",
        "responses": {
          "200": {
            "description": "Returns Ok with the list of robot commands",
            "content": {
              "text/plain": {
                "schema": {
                  "type": "array",
                  "items": {
                    "$ref": "#/components/schemas/RobotCommand"
                }
               "application/json": {
                "schema": {
                  "type": "array",
                  "items": {
                    "$ref": "#/components/schemas/RobotCommand"
                }
              "text/json": {
                "schema": {
                  "type": "array",
                  "items": {
                    "$ref": "#/components/schemas/RobotCommand"
                }
              }
            }
          }
        }
      },
       'post": {
        "tags": [
          "RobotCommands"
        "summary": "Creates a robot command.",
        "description": "Sample request:\r\n
                                                         \r\n
                                                                 POST /api/robot-commands\r\n
                                                                                                  {\rn}
                              \"IsMoveCommand\": false\r\n
\"Name\": \"DOWN\",\r\n
                                                                }",
        "requestBody": {
          "description": "A new robot command from the HTTP request.",
          "content": {
            "application/json": {
               "schema": {
                "$ref": "#/components/schemas/RobotCommand"
            "schema": {
                "$ref": "#/components/schemas/RobotCommand"
              }
            },
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```
scnema":
            "$ref": "#/components/schemas/RobotCommand"
          }
        }
      }
    },
"responses": {
      "201": {
        "description": "Returns the newly created robot command"
        "description": "If the robot command is null, or addition fails",
        "content": {
          "text/plain": {
            "schema": {
              "$ref": "#/components/schemas/ProblemDetails"
            }
          },
          "application/json": {
            "schema": {
              "$ref": "#/components/schemas/ProblemDetails"
            }
          "schema": {
              "$ref": "#/components/schemas/ProblemDetails"
          }
        }
        "description": "If a robot command with the same name already exists.",
        "content": {
          "text/plain": {
            "schema": {
              "$ref": "#/components/schemas/ProblemDetails"
            }
          },
          "application/json": {
            "schema": {
              "$ref": "#/components/schemas/ProblemDetails"
            }
          },
          "text/json": {
            "schema": {
              "$ref": "#/components/schemas/ProblemDetails"
            }
         }
       }
      }
    }
 }
},
"/api/robot-commands/move": {
  "get": {
    "tags": [
      "RobotCommands"
    "summary": "Retrieves only robot commands that move the robot.",
    "responses": {
      "200": {
        "description": "Returns Ok with the list of robot commands that move",
        "content": {
          "text/plain": {
            "schema": {
              "type": "array",
              "items": {
                "$ref": "#/components/schemas/RobotCommand"
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},
"application/json": {
            "schema": {
              "type": "array",
              "items": {
                "$ref": "#/components/schemas/RobotCommand"
            }
          "schema": {
              "type": "array",
               "items": {
                 "$ref": "#/components/schemas/RobotCommand"
            }
     } }
    }
 }
},
"/api/robot-commands/{id}": {
  "get": {
    "tags": [
      "RobotCommands"
    ],
"summary": "Retrieves a robot command by its ID.",
    "operationId": "GetRobotCommand",
    "parameters": [
        "name": "id",
        "in": "path",
        "description": "The ID of the robot command to retrieve.",
        "required": true,
        "schema": {
          "type": "integer",
"format": "int32"
        }
      }
    ],
    "responses": {
      "404": {
        "description": "If the RobotCommand was not found",
        "content": {
          "text/plain": {
            "schema": {
               "$ref": "#/components/schemas/ProblemDetails"
            }
          },
          "application/json": {
            "schema": {
              "$ref": "#/components/schemas/ProblemDetails"
            }
          "text/json": {
            "schema": {
               "$ref": "#/components/schemas/ProblemDetails"
          }
        }
      },
"200": {
        "description": "Returns Ok with the command object"
      }
    }
  },
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         tags": |
          "RobotCommands"
        "description": "Sample request:\r\n
                                                      \r\n
                                                              PUT /api/robot-commands/:id\r\n
           \"Name\": \"DIAGONAL\",\r\n
                                             \"Description\": \"Description of the new
\{\r\setminus n
\"IsMoveCommand\": false\r\n
                                                   }",
          {
           "name": "id",
           "in": "path",
           "description": "The ID of the command to update.",
           "required": true,
           "schema": {
  "type": "integer",
  "format": "int32"
           }
          }
        "requestBody": {
          "description": "The updated command details from the HTTP request.",
          "content": {
            "application/json": {
              "schema": {
                "$ref": "#/components/schemas/RobotCommand"
           "schema": {
                "$ref": "#/components/schemas/RobotCommand"
             }
            "application/*+json": {
              "schema": {
                "$ref": "#/components/schemas/RobotCommand"
           }
         }
        "responses": {
          "404": {
           "description": "If the robot command isn't found in database",
            "content": {
              "text/plain": {
                "schema": {
                 "$ref": "#/components/schemas/ProblemDetails"
               }
              },
              "application/json": {
                "schema": {
                 "$ref": "#/components/schemas/ProblemDetails"
               }
              },
              "text/json": {
                "schema": {
                  "$ref": "#/components/schemas/ProblemDetails"
             }
           }
          "204": {
           "description": "No Content if Robot is updated sucessfully"
          "400": {
           "description": "If update failed.",
            "content": {
              "text/plain": {
                "schema": {
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```
},
"application/json": {
              "schema": {
                "$ref": "#/components/schemas/ProblemDetails"
            "schema": {
                "$ref": "#/components/schemas/ProblemDetails"
            }
          }
       }
     }
   "tags": [
        "RobotCommands"
      ],
"summary": "Deletes an existing robot command.",
      "parameters": [
        {
          "name": "id"
          "in": "path",
          "description": "The ID of the command to delete.",
          "required": true,
          "schema": {
  "type": "integer",
  "format": "int32"
          }
        }
      "responses": {
        "404": {
          "description": "If the robot command isn't found in database",
          "content": {
            "text/plain": {
              "schema": {
                "$ref": "#/components/schemas/ProblemDetails"
              }
            },
            "application/json": {
              "schema": {
                "$ref": "#/components/schemas/ProblemDetails"
              }
            },
            "text/json": {
              "schema": {
                "$ref": "#/components/schemas/ProblemDetails"
            }
          }
       },
"204": {
          "description": "No Content if Robot was deleted"
        }
     }
   }
 }
"components": {
  "schemas": {
    "Map": {
      "type": "object",
      "properties": {
        "id": {
          "type": "integer",
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```
"columns": {
  "type": "integer",
  "format": "int32"
     },
"rows": {
       "type": "integer",
"format": "int32"
    },
"description": {
    " "string
       "type": "string",
        "nullable": true
     },
"createdDate": {
    " "string";
}
       "type": "string",
"format": "date-time"
     "modifiedDate": {
       "type": "string",
"format": "date-time"
     }
  },
"additionalProperties": false
},
"ProblemDetails": {
    " "ohiect",
  "type": "object",
   "properties": {
     "type": {
    "type": "string",
        "nullable": true
    },
     "status": {
    "type": "integer",
       "format": "int32",
       "nullable": true
     },
     "detail": {
       "type": "string",
        "nullable": true
     "instance": {
       "type": "string",
        "nullable": true
     }
   "additionalProperties": {
  }
"RobotCommand": {
  "type": "object",
   "properties": {
     "id": {
       "type": "integer",
        "format": "int32"
     "name": {
       "type": "string",
        "nullable": true
```

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